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GEORGE WOOD CLAPP D.D.S.

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# THE DENTAL DIGEST

GEORGE WOOD CLAPP, D.D.S., Editor

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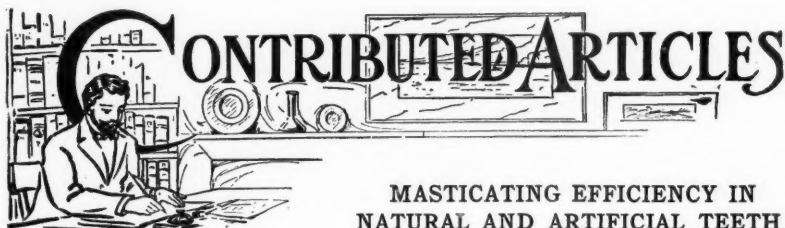
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MAY, 1915

No. 5

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## MASTICATING EFFICIENCY IN NATURAL AND ARTIFICIAL TEETH

BY ALFRED GYSI, D.D.S., ZURICH, SWITZERLAND

*Professor at the Dental School of the University of Zurich*

(LITERARY COLLABORATION BY GEORGE WOOD CLAPP, D.D.S.)

### ARTICLE V

#### THE ARTICULATION OF PORCELAIN INCISORS

The correct articulation of artificial incisors is important to patients because it permits biting efficiency where little or none would otherwise exist, because it restores the expression of the lips which may otherwise be lost, because it avoids the tipping of the dentures out of place by improper contacts, and because it avoids breakages of anterior teeth which may otherwise be common.

The subject of the articulation of the incisors does not properly include the articulation of the distal third of each upper lateral, but includes both upper centrals, the mesial two thirds of each upper lateral, and the four lower incisors. The area of upper incisors involved is that directly above the lower incisors. The distal third of each upper lateral

occludes and articulates with the opposing lower cuspid and exhibits quite different relations. Its relations will be considered in the next article.

**Articulation between upper and lower incisors is properly confined to contact of the edges of the lowers with the edges of the uppers.** This relation is so important and has been so generally overlooked that it is well to briefly review the grounds for limiting it to this area. It is merely another view of the fact that the problem of placing artificial teeth to discharge the functions of natural teeth is an engineering problem and demands an arrangement of the teeth which will assist in holding the dentures in place while the teeth function. Slight departures from the arrangements often seen in natural teeth are necessary. Let us see why.

If sets of natural teeth in the first stage of wear (the stage of greatest

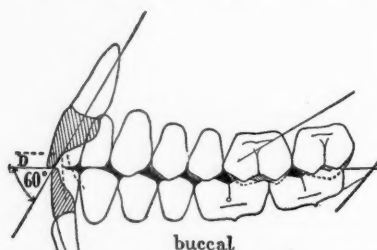


Fig. 31. Inclination of incisal facet, upper central, slightly worn teeth

efficiency) are examined, the lingual surfaces of the upper incisors will be found worn so as to present articulating facets, inclined, on the average, at about 60 degrees to the occlusal plane.

The incisal edges of the lowers will probably present facets worn to articulate with those on the uppers. If sets of teeth in the second, third and fourth stages of wear are examined, the facets will be found more extensive and very much less steeply inclined to the occlusal plane.

Natural teeth do not present these facets when they first erupt. The planes are the result of wear when the teeth could not be forced farther out of the arch against the muscles of the lips and cheeks on one side and the tongue on the other. **The extent and inclination of the articulating facets on normally placed incisors are governed by the depth of bite in the other teeth and the habitual movements of the jaw.** When the bite in the other teeth is deep, the facets on the incisors are steeply inclined and sometimes extensive. When the bite in the other teeth is shallow, the facets on the incisors are but slightly inclined and are extensive only when the teeth are worn down.

The conditions under which artificial incisors must function are quite



different from the conditions about natural teeth. They are not rooted in firm tissue, but are on movable bases which they must help to hold in place, or at least must not dislodge. They cannot be forced by pressure of tongue and cheeks into positions which permit articulation, but are fixed in position and can only dislodge the base or be broken. They will not wear each other to articulating forms, but must be ground to those forms by the dentist, or break under unknown or excessive strains. Even on partial plates they are not usually furnished to patients while the other teeth are in the first or second stages of wear, and cannot thus be properly set to deep overbites.

Our task then is to find an arrangement of the artificial incisors which permits them to bite food, to restore expression and to facilitate speech in



Fig. 32. The lower incisors move from the position shown by the dotted outline to that shown by the teeth

the same manner as the natural teeth; and then to give to the artificial teeth the forms suited to the discharge of these functions. Fortunately this is quite easy when we have grasped two simple principles and employ correctly formed teeth and an articulator which reproduces jaw movements with approximate accuracy. Fortunately also, the results of applying these principles are so immediately satisfactory as to reward all our labors.

The principles are that the bite in artificial cuspids, bicuspid and molars must be as shallow as in well worn natural teeth; and that the incisors must be set to just "clear" in lateral movements. The deep underbite common to some natural incisors may be abandoned without loss to either expression or function. In full cases the correct depth of bite in posteriors is assured in Trubyte teeth, in which the depth of bite is as shallow as in well worn natural teeth. This leaves to the dentist only the matter of the arrangement of the incisors.

It is quite impossible to habitually arrange incisors properly without the use of an anatomical articulator in which the lateral movements of the mandible are reproduced from rotation points in at least approximately correct positions. Illustration No. 33 shows drawings of the

lingual surfaces of two upper centrals with four paths of lower incisors drawn in black lines. When the rotation points are between the condyles, the lower incisors pass strongly sideways when moving forward,

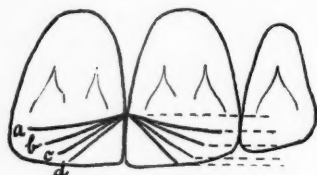


Fig. 33. "a" the path of the lower incisors when the rotation points are well "inside the condyles." "d" the path when the rotation points are "outside the condyles."

and a deeper underbite and longer articulation are permissible, than when the rotation points are located in the condyles. Nothing in prosthetic dentistry is more certain than that the arrangement of teeth upon an articulator incapable of lateral movements renders the establishment of correct relations difficult or impossible, and greatly increases the liability to improper contacts, with resulting dislodgment of the dentures or breakage of teeth.

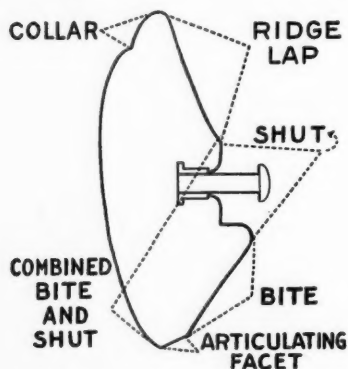


Fig. 34.

With a proper articulator, the arrangement of the incisors for articulation is quite simple. The uppers are set to the level called for by the lip line, and the lowers are set so that in the position of central occlusion there is a space of the thickness of a government postal between their edges and the lingual surfaces of the uppers. A lateral movement of the articulator permits the adjustment so that the edges of the uppers will articulate with the edges of the lowers, on the working side, without bringing real pressure to bear on either set. The remaining teeth of both sets are then

placed, the positions are corrected by "automatic articulation," and the case is ready for the formation of the facets on all the teeth. These facets should be formed by grinding in carborundum and glycerine. Let us examine the principle governing the formation of these facets on the incisors.

The lingual surface of an artificial anterior presents three parts, as shown in Fig. No. 34. The designation of the part between the ledge near the pins and the cutting edge as the "bite" is sufficient for the

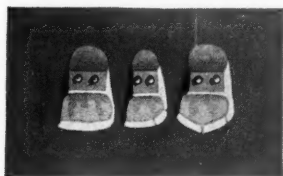


Fig. 35. Facets on the upper centrals, laterals, and cuspids

tooth as it leaves the manufacturer, but is not definite enough for our purpose. We must divide this surface into two parts, the articulating facets which we are to form on the cutting edge, and the "bite" which shall com-

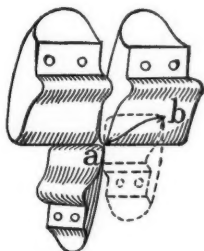


Fig. 36. The left lower incisor at "a" is in the position of articulation with the upper right central. In cases with strong lateral inclination of the incisor path, it will return to occlusion, at "b" by following the direction of the arrow. This path of return permits a relatively deep underbite and great cutting power

prise the rest of the surface. Save in cases where the teeth are irregularly arranged for esthetic purposes, these facets can be formed by the grinding with carborundum and glycerine.

The forms of these facets differ with different arrangements of the teeth, that is with different rotations for esthetic purposes. In general, however, the facet on the edge of each upper central is merely a straight facet across the edge of the tooth. That on each upper lateral is divided into two parts, the mesial part articulating with the lower lateral, and the

distal part both occluding and articulating with the lower cuspid.\* These facets are diagrammatically illustrated in Fig. No. 35.

It is of course impossible to properly form these facets by means of

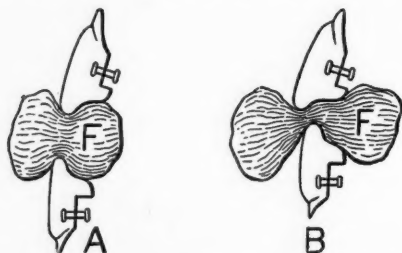


Fig. 37. Diagrammatic illustration of the way short bite teeth compress a considerable area of the food. The resistance thus created is often greater than the teeth can overcome and the dentures are dislodged

articulators incapable of lateral movements, and they are likely to be incorrectly formed if the articulator has incorrectly placed rotation points. The ideal way, and I think the most economical way in the end, is to

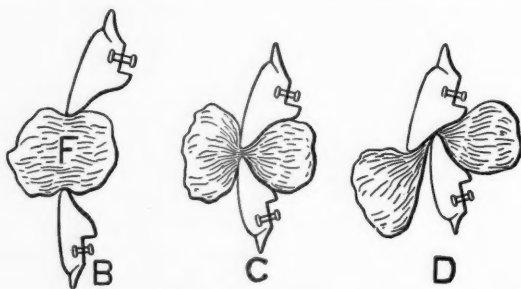


Fig. 38. Diagrammatic illustration of the cutting action of long bite teeth on food. This form of biting imparts the maximum biting efficiency to artificial teeth

reproduce the movements of each patient's jaw and form all facets by means of carborundum grinding with the articulator set to reproduce those movements.

It is often asked why, if these facets are so important, they are not formed by the manufacturers of the teeth, ready to our hands. They cannot be, for the same reason that the facets on the bicuspid and molars

\*The distinction between occlusion, or the simple meeting of the morsal surfaces of the teeth of the upper and lower sets (something which may be secured with almost any arrangement of the teeth of one set, those of the other being fitted to them), and articulation, in which contact of the teeth of the two sets will occur at a number of widely distributed points when the mandible is moved laterally, as in mastication, has not received the attention that it should have done.—SNOW.

cannot be. The exact locations of the facets, their extent and more than all else, their inclinations, are determined by the positions of the teeth as we set them. We cannot grind them perfectly ourselves, save as we make them grind each other.

In the formation of Trubyte teeth, great pains have been taken to prepare the edges of the incisors for the easy formation of these facets by the dentist.

It may be asked why, if the lower incisors are to articulate with only these narrow facets on the upper incisors, the form of the rest of the

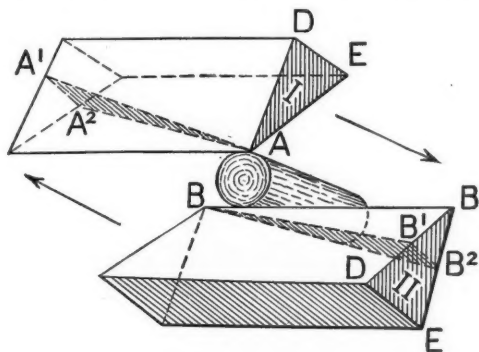


Fig. 39. The sideways movement of the teeth may be here diagrammatically represented by two wedges and the food by the round body between them. If the wedges are forced vertically through, great pressure will be required. If the wedges be moved in the direction shown by the arrows, very much less force will be required. The reason is that the cutting form of the wedges is changed. With this motion the form of the wedge is not the triangle formed by the lines A D E, but the much sharper triangle which is drawn inside each triangle and lettered A—A'—A'' in the upper, and B—B'—B'' in the lower. Continued in Fig. No. 40

“bite” is so important, and why leading workers emphasize the use of as long bite teeth as each case permits. The use of long bite teeth is important because it permits the teeth to transmit the maximum biting power and gives greatest comfort in speech and while the jaw is at rest. For, while the lower incisors articulate only with the facets on the uppers, the biting power is largely affected by the form of the whole edge or “bite” of the teeth.

Artificial molars are believed to be incapable of transmitting more than one tenth of the power of natural molars and artificial anteriors, which are located at the extreme forward end of the lever formed by the jaw, and are farther from the source of power than are the molars, are perhaps capable of exerting an even smaller proportion of the power of natural teeth. The biting portions of these teeth should be such that they can be forced through food with the small power they are capable of transmitting.

Artificial incisors are much more efficient in biting if a side motion is given to the jaw than if the biting movement is straight backward. Fig. No. 36. The teeth then cut with a different formation than in the straight movement and with a great increase in power. The teeth with long, relatively thin "bites" become very efficient, even with small power. Short bite teeth do not cut through the food, but crush through as far as the power will carry them. There is not usually power enough to carry them

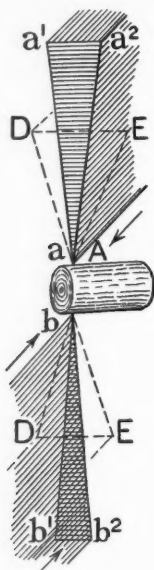


Fig. 40. The dotted outlines reproduce the triangles A—D—E and B—D—E, while the solid outlines a—a'—a'' and b—b'—b'' reproduce the triangles A—A'—A'' and B—B'—B'' which were produced by the lateral movement of the triangles in Figure No. 39. The sharper triangles have about three times the cutting power of the triangles A—D—E and B—D—E

through any except very soft foods, and they either fail as cutters, or dislodge the dentures, or both. Patients with such teeth are compelled to chew with their knives. There is no doubt that the use of short bite teeth is very much too common, and that it works great injustice to patients. It is frequently better to set the teeth a trifle long and stretch the muscles and give patients the advantage of longer and more efficient bites.

The mathematics of the efficiency in different lengths of bites in teeth are diagrammatically shown in Figures No. 39 and 40.

*(This article is expected to be continued in the July number.)*



## TREATMENT OF INFLAMMATIONS WITHIN THE MOUTH

BY B. BARRYMORE MARCO, D.D.S., NEW YORK

For many years physicians have been experimenting, and curing inflammatory conditions by means of artificial hyperemia. Many of the most eminent in the profession have written articles and books on the subject. Bier, of Berlin, has made such an exhaustive study of this subject, that it is now commonly called "Bier's" hyperemia treatment.

To employ artificial hyperemia, means to increase the quantity of blood in a given diseased part of the body; the aim of the treatment is to increase the inflammatory hyperemia resulting from the fight of the living body against invasion. According to Bier, it is a mistake for the physician to order the ice bag; by so doing he suppresses the good effects of the inflammation, and favors the bad influence of bacteria. Bier's method artificially increases the redness, swelling, and heat, three of the symptoms of acute inflammation. It is claimed by the followers of Bier that they apply the same rule to infectious diseases; there would be very few who would attempt to reduce the fever in such cases. The fever they have now learned to look upon as the weapons of the body in the fight against the intruder.

The advantages of the artificial hyperemia treatment are:

- 1st. The avoidance of suppuration.
- 2nd. Hastening the pathologic process.
- 3rd. Favoring absorption and lessening pain.

Since by increasing the inflammation of a beginning abscess it can be made to subside, we ought to practise abortive treatment.

In cases where we cannot abort suppuration, the artificial hyperemia treatment enables us to accomplish results with small incisions; the increased supply of blood hastens the course of suppuration, inasmuch that it favors the rapid separation of necrosed portions.

Before going into the treatment of inflammation, let us see more clearly what causes this condition. Our authorities say that inflammation is a condition of nutritive disturbance, characterized by hyperemia, with proliferation of the cells of a tissue, or organ, and attended by one or more of the symptoms of pain, heat, swelling, discoloration, and disordered function.

The essential features of inflammation are an increased afflux of blood to the affected part, with a greatly increased tendency to sell proliferation and tissue formations.

The phenomena of inflammation include vascular, exudative, proliferative, and degenerative changes.

Vascular changes are a dilatation of the arteries, slowing of the current of blood, sometimes stasis, owing to damaged cells.

Exudative changes include the migration of the leucocytes through the vessel walls into the tissues, also an exudation of altered blood plasma; this is a passive process.

Proliferative changes. This condition is disputed by some authorities as a part of inflammation. Granulation tissue is formed by active proliferative changes.

Degenerative changes depend upon the severity of the irritation, very powerful irritants causing necrosis at once—catarrhal, serous, fibrinous, diphtheritic, parenchymatous, productive.

*Hyperemia.* Hyperemia at congestion is an increase in the quantity of blood in a tissue or organ of the body, and is divided into active and passive forms. Active is due to an increase of the blood flow to a part.

Venous hyperemia is an obstruction of the outflow of blood through the veins.

*Suppurative inflammation.* This is caused by infection with pyogenic micro-organisms; the most common bacteria found here are the pyogenic staphylococci and streptococci.

*Pus* is a fluid resulting from the process of suppuration.

*An abscess* is a circumscribed cavity containing pus.

*An ulcer* is of the same construction as an abscess, except that it appears with erosion, the discharge instead of collecting in a closed cavity escapes on the surface.

*A sinus* is an opening from the skin or mucous surface leading into a focus of suppuration or into an abnormal cavity.

*A fistula* is an abnormal canal connecting a normal cavity with skin or mucous membrane.

The causes of inflammation are: mechanical violence; irritating and destructive chemical action; poisonous infection and the effect of injurious micro-organisms.

The causes of inflammation are divided into predisposing and exciting. Among the most important of predisposing causes are impoverished blood for want of proper food and fresh air. Blood poisoning is another cause as from syphilis, diabetes mellitus, etc., weakened vitality of parts, from ill feeding, overwork, long exposure to extreme cold.

Defective nervous supply may be regarded as a predisposing cause, conditions of the mucous membrane of the mouth, also periodontitis and alveolar abscess furnish examples.

Chemical irritants excite inflammation, such as mineral irritants, mercury and arsenic, for instance; inflammation from these two drugs is developed very often in the mouth, but only after the poison has entered

the circulation and a certain amount has been received by the stomach. When active inflammation of the mouth with mercurial stomatitis occurs the agent is mercury; if active gastric hyperemia with vomiting, the agent is arsenic.

Micro-organisms excite inflammation by direct contact with the tissues in the mouth, when the latter are exposed by injury; they, acting as a poison, decompose the material generated for repair, and prevent constructive process.

Symptoms of inflammation are redness and heat, with swelling and pain. The absence of one or more of these phenomena is not incompatible with the existence of inflammation. Redness and heat may disappear before the inflammatory process ceases and pain may sometimes be totally absent.

The redness is usually observed first; this is caused by the increased amount of blood entering the vessels of the part and remaining there longer than natural conditions call for.

Heat is caused by the unnatural quantity of blood present, also by a increase of super-oxidation of the affected tissues.

Swelling is caused by an unusual quantity of blood present in the dilated vessels and also by the matters, both liquid and solid, which exude into the affected tissue through the walls of the dilated vessels; the tissue becomes inflated with blood plasma, consequently an increased thickness or swelling ensues. However, swelling may be absent when other symptoms are present and vice versa.

Pain of inflammation is due to the local irritation of nerves of the part, also by the tension which results, when the parts are unyielding, as in periodontitis, pain is very severe. When the veins of a part become obstructed by the swelling, bringing about pressure to such a degree as to prevent the blood passing through them, a condition of strangulation results with severe pain; we find this latter condition of strangulation in inflammation of the pulps of teeth.

Having gone over the causes and symptoms of inflammation, we will now take up the treatment by means of artificial hyperemia.

There are three methods: elastic bandage or band; cupping glasses; hot air.

The work of the dentist can be confined only to the cupping glass. I have devised a set of small cups both oval and round made just to fit over the average abscess in the mouth. They are made with a long enough stem to be used on the hose which is attached to the fountain cuspidor for the saliva ejector, the suction of which is very regular and the strength of the suction can be regulated by the valve on the bowl.

On applying the cup for abscess, it will be seen that the gum is sucked

into the hollow of the cup; this immediately causes a rush of blood into the area, but the hyperemia does not involve the surface only; it reaches into the deeper layer of the tissue; at this stage the gum should be red or bluish red, but never white. Anemia must be avoided, the suction must never be too strong and never create pain.

If we place a cup over a diseased area which presents a sinus, the pus and bacteria are aspirated from the depth slowly and without pain. Often necrotic tissue and sequestra of small size are brought to the surface.

This suction is particularly valuable, for the granulations lining the abscess cavity are in this manner also brought under hyperemia, and the current of secretion bathes and cleanses them thoroughly.

Especially amenable to artificial hyperemia are acute infections, inflammation within the mouth, pericementitis, gingivitis, fistula, blind and acute abscess; this treatment will promptly relieve pain of abscess, and after incision the continued congestion makes the cavity close more rapidly, and tends to avoid bone necrosis.

In treatment for alveolar abscess make a small incision in centre and apply cup, first sterilizing cup and tissue, the former by boiling, and the tissue by painting over surface some iodine.

The cup is applied two or three times, five minutes each time, with an interval of three minutes between applications in order to give the edema and hyperemia swelling an opportunity to disappear.

One need not adhere strictly to this proportion of time; slight deviation will not matter.

In using artificial hyperemia I have had a great deal of success and it leads me to believe that properly employed it is a wonderful assistant in practice, and a marked improvement over older methods inasmuch as it is abortive and painless.

#### HISTORY OF CASES

*Mrs. H.* Blind abscess, small sinus over superior right central tooth; painted area with aconite and iodine; applied artificial hyperemia three times for five minutes each time with interval of three minutes between; patient instructed to return next day; again used artificial hyperemia, this time small spiculas of bone were aspirated into cup. This treatment was continued as above for two days longer, then noticed granulated tissue; patient advised to return one week later. Was then dismissed, cured.

*Mrs. W.* Chronic abscess long standing, lower first molar; suspected necrosis, tooth removed, socket would not heal under treatment, curetted and washed out small spicula of bone, little improvement. Tried artificial hyperemia; placed cup low down in socket; aspirated twice for three

minutes with three minute interval. Noticed small spicula of bone with blood in cup; slight improvement next day; once more used artificial hyperemia, as above; instructed patient to return in two days, at that time showed marked improvement; later patient dismissed, cured.

*Mrs. A.*—Superior left lateral very tender; large cervical filling; diagnosed abscess, painted area with aconite and iodine and used artificial hyperemia five minutes three times, with interval of three minutes between; returned next day. Tenderness disappeared, able to open up tooth and treat.

*Mrs. M.*—Abscess; root canal and crown having been filled and sealed, gum over root swollen; painted area with aconite and iodine; made slight incision; small cup used five minutes, three times with three minute intervals; pus and blood aspirated. Next day very much relieved. Used artificial hyperemia again. Following day patient returned; no pain or tenderness.

*Mr. G. S.*—Lower second bicuspid very tender and raised, gum inflamed, pericementitis. Painted area with aconite and iodine, used artificial hyperemia three times five minutes each time with interval of three minutes; returned next day, cured.

*Mrs. L.*—Presenting inflamed area over superior canine root with pivot, very painful; abscess symptoms; painted area with aconite and iodine, employed artificial hyperemia three times, five minutes each time, interval of three minutes; returned next day, abscess aborted.

*Miss H.*—Gum area over lower bicuspid with gold crown very much inflamed, tooth quite loose; history of root having been filled. Employed artificial hyperemia three times, five minutes each time, interval of three minutes; returned next day much improved; used same method again following day; pain and inflammation gone.

The above recorded cases are a few of the very successful ones. I have had several that have not responded to this treatment at all, and some that were neutral; but the percentage of success has been much greater than the failures.

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ANSONIA HOTEL, NEW YORK CITY

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He that holds fast the golden mean,  
And lives contentedly between  
The little and the great,  
Feels not the wants that pinch the poor,  
Nor plagues that haunt the rich man's door,  
Embittering all his state.—*Healthy Home.*

## THE RELATION OF MEDICINE TO DENTISTRY

By WILLIAM J. LEDERER, D.D.S., NEW YORK CITY

*Dental Consultant to the German Hospital in New York*

## FOURTH PAPER

## MENSTRUATION AND PREGNANCY AND THE MOUTH AND TEETH

The relationship between menstruation and pregnancy and the buccal structures constitute not only an interesting but also an important chapter in dental and medical diagnosis.

The physiologic periods in woman's life are Infancy, Puberty, Maturity and the Menopause.

Infancy includes the first ten or twelve years of life. Puberty is that critical period of transition in a girl's life, during which the child develops into a woman. Maturity, extends from the close of puberty to about the 40-45 year of life, when the woman becomes sexually negative, as far as child bearing is concerned, another critical period, extending over about from 3-5 years, which is known as the change of life, the climacteric or menopause.

Some females pass from one stage into another without visible disturbances, others exhibit marked reactions, the various transitions proving very critical and many a good wife or mother is lost during the climacteric. These changes which are distinct stages or divisions in a woman's life are always accompanied by profound constitutional upheavals which may affect the buccal structures, for which reason they should be of interest to the dentist.

Nothing of particular interest can be recorded about infancy here.

Puberty is characterized by the onset of menstruation and ovulation as well as marked psychic changes, all of which indicate that the reproductive organs and the sexual nervous organization are approaching maturity and that the girl is preparing for maternity.

Dudley, in his *Principles and Practice of Gynecology*, speaks of the general phenomena of menstruation, and states among other facts:

The general phenomena of menstruation are as follows: 1. Slight deviation of pulse and temperature. 2. Tendency to slight physical depression and inactivity. 3. Sensations of heat and cold. 4. Swelling of the breast and thyroid gland. 5. Discomfort and throbbing in the head. These disturbances are subject to wide variations. In some cases they are absent, in others they are so slight as to escape notice, or so severe as to make life miserable and useless.

Different degrees of blood pressure will affect the teeth and gums. Hyperæmia and anæmia are frequently associated with facial and dental



neuralgia, and it is well known that some nervous affections are ushered in with odontalgia, also that diseased conditions of accessory sinuses (maxillary, frontal, etc.), yes, even pelvic conditions will produce odontalgia reflexly.

It is not a rare occurrence that women subject to sexual disease suffer from toothache in perfectly sound teeth, caused by stasis in expanded pulp vessels, producing pressure on nerve filaments of the pulp. Patients often complain of toothache and painful gums during or shortly before and after the menstrual period, especially about sensitiveness of the teeth to heat and cold. If there are carious teeth present, menstruation cannot be looked upon as the cause of the odontalgia, but it happens frequently that young women with carefully kept mouths complain of pain in perfectly sound teeth, and it is here that the dentist should bear in mind hyperæmia produced by increased blood pressure as a possible cause of disturbed pulp or pericental conditions. Often there is also an increased flow of saliva. These symptoms are most frequently observed in young girls about to reach puberty, before their first menstrual period, the advance of which is sometimes indicated not only by pelvic discomfort, but by violent facial pains, radiating to the ear, caused by what we might call a menstrual gingivitis, which causes the gums to become puffy and loose and hæmorrhagic in character. In many cases it is advisable to hasten menstruation to reduce the blood pressure.

Similar conditions may appear in women suffering from amenorrhœa, as well as in patients during the climacteric period.

The following cases illustrating the foregoing came to my clinic at the German Hospital:

CASE I.—L. B., aged eighteen, complained of bleeding gums for two years; teeth were very sensitive to thermal changes, especially cold; patient had consulted a dentist without obtaining relief. She was a tall, spare girl of normal development. Menstruation appeared at sixteen, although very irregular, sometimes at an interval of three months. Patient looked very anæmic. She was given an astringent and alkaline wash, and a tonic was prescribed. Patient returned in two weeks much improved, and after a month her gums appeared normal and the condition of the teeth were comfortable.

CASE II.—S. M., aged sixteen, complained of bleeding gums. She was not menstruating yet. Headaches, dizzy spells, pelvic tenderness. Tincture of iodine was applied locally, and she was given an astringent mouth wash. She returned after ten days, had menstruated for the first time. Mouth was in good shape.

The writer has seen two ladies who complain of a "feeling of puffiness" in their gums before each menstrual period, which sense of fullness disappears with the start of the menstrual flow.

That pregnancy affects the mouth and teeth is a well established fact. Odontalgia during pregnancy is known to all; gingivitis in all its forms is a frequent condition attending this state.

The buccal or dental conditions found present in pregnancy are: 1. Caries, 2. Gingivitis, 3. Stomatitis, 4. Neuralgia, 5. Tumefaction.

That dental caries appears to a more marked degree during gestation has been observed by all gynecologists and dentists.

Biró an Austrian observer, examined 200 women on the 7th day after delivery in order to ascertain in how many cases dental caries had begun during the last nine months, i. e., during pregnancy, and he compared the findings obtained with those noted in the mouths of 100 women who had not borne any children. He based his findings upon (a) The size of the cavity of decay; (b) the color of the decay; (c) the consistency of the dentine covering the pulp; (d) the reaction of the pulp; (e) previous history of the patient.

This investigator came to the conclusion that pregnancy *per se* had no direct influence upon the occurrence of dental caries.

Dental caries increased with each succeeding pregnancy just as the patient got older; this increase is found with advancing age regardless of the uterine condition and he therefore arrived at the above conclusion.

Siefert (*Der Einfluss von Geburt und Wochenbett a. d. Zähne* D. Z. W. 1905) examined the teeth of 600 pregnant women. He divided these into three classes according to age and found that the older women had their teeth in worse condition than the younger patients.

Although these investigations are very interesting they are exceedingly subjective and offer very little practical information. It is very difficult to determine the exact age of carious process—as dental caries will progress with varying rapidity in different individuals under different conditions.

Tanzer (*Der gesteigerte intradentäre Blutdruck* Ö. Y. V. F. Z. 1905) claims the main reason for increased dental caries during pregnancy is due to the fact that pregnant patients do not like to visit the dentist and pinhead cavities are permitted to increase.

Views differ among different observers regarding the so called predisposition of pregnant women for dental caries, some claiming that there obtains a dearth of lime salts in the osseous system of the mother, others ascribing the condition to disturbed metabolism.

Some declare that there occurs changes in the gastro-intestinal and urinary apparatus, others claim there are metabolic and circulatory changes present, still others claim that there occurs an actual decalcification of the mother's teeth. All these theories, however, require more specific data and closer observation.

Pregnancy is a state wherein the physiologic condition of the mother is an altered one and no doubt all bodily functions are more or less modified, but we must not forget that gestation is a normal process and nature provides for all emergencies.

Human beings are not organisms which die with the production of an offspring and it is the author's firm belief that a normal pregnancy in a healthy individual will not endanger the good health of a mother in any way, if both parents are in good health and lead a normal life. "A tooth for a child" is just as much fallacy as Grandmother's doctrine of "Keep away from the dentist during pregnancy."

It is true we find more extensive caries during pregnancy than at other times—why? Not because the teeth themselves are worse during gestation than they were before conception but because—

1. Patients go into pregnancy with badly kept mouths, caries exists already but the dentist was not consulted because the mother had no toothache. A woman to be married ought to be as careful about her teeth as she is about her general health. No one ought to attempt to shoulder the responsibilities of maternity without a perfectly clean bill of health.

Good health also means a clean mouth. Dental caries is a *bacterial invasion*. During pregnancy this may not only mean toothache, but gingivitis, pyorrhea, the constant ingestion of pus, irritation of the gastrointestinal tract, the absorption of toxins, which latter may prove a very severe complication of pregnancy, as toxemia is often responsible for many deaths during gestation.

2. Patients owing to their altered physiologic and psychologic condition do not care for their mouths and teeth as required. Pregnant women exhibit a greater degree of oral acidity due to (a) greater production of mucin; (b) greater accumulation of acids due to vomiting or morning sickness, particularly during the early months of pregnancy.

No doubt this hyperacidity of the saliva (I do not believe that the salivary secretion is more acid during pregnancy, before the saliva enters the mouth, but that it becomes admixed with more acid reacting material in the mouth proper) plays a rôle in the augmenting of carious processes. Coupled with this, the lack of oral hygiene conditions are ideal for the spreading of dental caries.

3. There is undoubtedly in some cases an altered body metabolism which probably has a bearing upon the buccal and dental structures.

We find a good deal of pyorrhea during pregnancy as the pathogenic organisms found in this disease have a more favorable culture medium than in a normal, well kept mouth.

Stomatitis, hypertrophy of the gums, epulis, are found simply because

their etiologic factors are favored and encouraged to exist. How many pregnant women pay a visit to their dentist to have their teeth scaled? Tartar accumulates and we know that the presence of calcic deposits are in the majority of cases of pyorrhea the first predisposing or actual etiologic factor. How much more readily will this act as an irritant in a mouth which is actually laved with acid produced and accumulated by daily emesis and the decomposition of food stuffs? Mouths and jaws which are not properly exercised (as the patient forms bad habits as to eating, lack of exercise, our modern mothers are frequently pampered on account of their "delicate condition") teeth which are not cleaned and called upon to masticate food properly become predisposed to caries and pyorrhea.

4. Patients who have dental defects are actually forbidden to visit the dentist for treatment and this sometimes by the man who ought to know better and encourage dental and oral prophylaxis—namely by their physician.

The writer met one of the better known gynecologists and obstetricians of this city some years ago and the gentleman stated in open meeting that he did not even permit his pregnant patients to use a toothbrush, but advocated the use of towel dipped in an antiseptic lotion as a tooth cleaning medium and that he positively forbade his charges to have any dental work done during pregnancy. If such men spread such teachings in open dental meetings it is not surprising that "Grandmother to be," shudders at the thought of her pregnant daughter visiting the dentist.

The writer though not a physician has always advocated and taught the opposite. He had occasion to speak to one of the foremost obstetricians of this country on this subject and the learned doctor said "My dear Doctor, I believe you are right in all that you say, but it would not do to teach your doctrine, as a pregnant woman might suffer from shock during, say a tooth extraction, and actually abort." I believe this is true; the psychic shock might be so great as to cause uterine contractions; on the other hand it is the writer's opinion that in a given case of odontalgia, the continued pain (pain means shock) will cause accumulative shock which will harm the patient more than a skillfully executed dental operation, particularly if an anæsthetic is used in conjunction with a sedative. The writer has never refused an extraction on account of pregnancy and has no ill results to report. An actual case may illustrate the author's contention. A few years ago a patient 6 months pregnant was referred for advice; she had a lower molar which was badly broken down, she was advised to have it extracted. The family physician and the patient's mother refused permission.

The little woman tried home remedies and finally found a dentist

who tried his skill to save the tooth but failed even to stop the pain. She consulted a number of dentists who all refused to do anything. She went to her family physician who "treated" the tooth but didn't succeed very well. In desperation she changed physicians; her new medical advisor called the writer in consultation to see her in bed with a nasty osteomyelitis, adenitis, with the result that she was operated upon during her ninth month of pregnancy and came to the writer's office for treatment long after her baby was born. She lost a large portion of one side of her mandible. Had her tooth been extracted during the sixth month or filled during the first month of pregnancy, or better yet before conception, she would have saved herself an ugly scar, untold suffering and incidentally a good many dollars. The lesson to be learned here is obvious. Pregnancy should never be a contraindication for necessary dental treatment. Oral hygiene and proper dental treatment before conception is the ideal prophylactic. A great deal more could be written about this subject but it would spell repetition, the last sentence sums up all that is to be said.

Menstruation and pregnancy are both accompanied by gingivitis, neuralgia, toothache caused either by pulpitis or pericementitis as the result of caries or by hyperæmia of the pulp.

Hyperæmia of the gums and teeth is due to high blood pressure, local irritants, or both. Pregnancy itself does not cause a decalcification of teeth, it is essential, however, to see that the patient obtains sufficient calcic material to supply both mother and child with lime salt. This should not be given in the form of drugs or medicines but as nature provides these materials, as foodstuffs.

Prophylaxis should be practised at all times; teeth which require treatment should be attended to and a necessary extraction should be performed under anæsthesia.

The writer has employed Conductive Anæsthesia (always coupled with a sedative or an opiate if required) with satisfactory results in the majority of cases.

To recapitulate—Oral and dental symptoms of menstruation; vague pains in sound teeth; gingivitis; easily bleeding gums; oral and dental symptoms of pregnancy; odontalgia; gingivitis; pyorrhea alveolaris; hypertrophy of gums; bleeding gums; treatment—Skillful removal of all local irritants and the use of astringent wash.

Do not expose your pregnant patients to unnecessary shock. Don't construct that removable bridge with those difficult inlays and fancy attachments if the patient's psychic state is not equal to those long trying sessions, but for Heaven's sake don't let them develop pulp exposures, alveolar abscesses, osteomyelitis or necrosis of the jaws, but fill that cav-

ity and extract the tooth which has to come out, if you haven't taught your patient sufficient about oral hygiene and prophylaxis that she had her teeth and mouth in good shape before she became pregnant.

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150 EAST SEVENTY-FOURTH STREET.

### ALUMINUM FILTER FOR DENTAL RADIOGRAPHY

BY ALONZO MILTON NODINE, D.D.S., NEW YORK

*Assistant Dental Radiographer New York Throat, Nose and Lung Hospital*

Investigations in the field of dental radiography by Dr. Wilbur M. Dailey of New York have suggested the use of aluminum or silver to filter out the secondary rays. He has proposed that a sheet of aluminum or silver one sixteenth of an inch thick or less be inserted at the circular opening of the diaphragm, the aperture in the tube shield holder through which the X-rays pass. The efficiency of other metals for this purpose is also being investigated.

In the D. N. & R.\* private clinic, the New York Throat, Nose and Lung Hospital, and in the writer's private practice, it has been demonstrated that the use of either aluminum or silver filters result in clearer negatives with greatest definition and more uniform results. The crossing of the secondary rays which hitherto have produced dark and opaque areas in the negative are also eliminated. These dark and opaque areas, it has also been suggested, are produced by the phosphorescing of the sodium and other salts in the media through which the secondary rays pass. Further, this effect may take place in either the solid or soft tissues. In other words, the fixed salts and the salts in solution are affected by the phosphorescent or phosphorizing action of the secondary rays, which in turn affect the negative. We hope this suggestion will be tried out by other dental radiographers, and we will be pleased to know their results.

80 WEST 40TH ST.

### AN INCIDENT IN PRACTICE

Upon showing a patient a nerve which I extracted from her tooth, she exclaimed: "Oh, those are the worms that eat the holes in your teeth."—I. JEROME SILVERMAN, Syracuse, N. Y.

\*Dailey, Nodine and Rosenbaum Private Clinic



## A REPLY TO DR. ELIOT'S ARTICLE\*

BY JULIUS WEISS, VIENNA, AUSTRIA

*Editor of Oesterreichisch-ungarische Vierteljahrsschrift für Zahnheilkunde*

One morning last fall I read in "The New York Times" an article by Dr. Charles W. Eliot, President Emeritus of Harvard University, entitled "America and the Issues of the European War." It never occurred to me that the article would give offense to anyone, and I reproduced it in THE DENTAL DIGEST with an editorial note that this magazine is absolutely neutral as between races of men and their beliefs or actions.

I am sorry that I printed that article because political articles are outside the province of this magazine, and require of an editor political training, just as dental articles require a dental training. I see also that my viewpoint was not broad enough. I have never been in or near a war, but I can imagine how strong my feelings would be if my own country were engaged in a great war.

I have received the following letter from Dr. Weiss who considers Dr. Eliot's article unfair to the Austro-German cause. In order therefore to be impartial between the sides of this great struggle I reproduce Dr. Weiss's article just as it came. **It is hardly necessary to say that I do not endorse either article, one way or the other.**

And now, having published these two articles in a strange field, I shall consider the discussion closed and confine my editorial attention to articles intended to advance the cause of good dentistry.—EDITOR.

January 28th, 1915.

DR. GEORGE WOOD CLAPP

Editor of THE DENTAL DIGEST, New York

DEAR SIR:

THE DENTAL DIGEST edited by you and which I receive in regular exchange for my *Quarterly* has never diverted from its scientific programme during the years which I have been a constant reader.

I was therefore somewhat surprised to read in the November issue a political article by Dr. Eliot reprinted from the *New York Times*. This article refers to the European war and chiefly tries to explain, or rather to prove why American sympathies are with the opponents of Germany and Austria-Hungary.

As you introduce the paper with the words: "*This Magazine is absolutely neutral between races of man and their beliefs or actions,*" I hope you will be good enough to reproduce the following lines in your esteemed paper.

First of all I must state that Dr. Eliot has avoided speaking about the causes of the war. He begins with the preconceived idea that the war has been outrageously brought on by ourselves.

There is surely no newspaper reader who is not aware of the isolation

\* November, 1914, Dental Digest, page 676.

of Germany preached by England since the time of Edward VII and of the efforts made by Russia for centuries to extend her power to Constantinople, and to destroy the Austro-Hungarian monarchy hindering to fulfil this ambition.

About the last cause of the war, the assassination of the Austro-Hungarian successor, Franz Ferdinand and his wife, perpetrated by Serbian emissaries Dr. Eliot remains silent. It is known to everybody that Serbia is the Agent for Russian business on the Balkan.

What would the government and the people of the U. S. A. have done in a similar case? For instance, suppose Mexico had openly and secretly plotted the separation of California and at last murdered the Vice-President of the U. S. A., would surely have acted in the same manner as we found ourselves obliged to do after years of patient endurance. We wished to destroy the nest of conspirators against our State and we declared at the same time that we renounced all land acquisition.

Russia whose government maxims have always been associated with assassination, took the part of Serbia, and had long before concentrated troops from the Far East on ours and the German frontiers.

The discovery of Original Acts in Brussels and Antwerp has long refuted the fable that England has drawn her sword in defence of the neutrality of Belgium. Belgium was in alliance with the Triple-Entente ready to allow English and French troops to cross to Germany by traversing her territory. The necessary entry of the German and Austro-Hungarian army in Belgium is given by Dr. Eliot as the main reason why Americans side with our enemies. For the right judgment of the question of the Neutrality of Belgium, I refer to the long article published in "The Vital Issue" by Prof. John W. Burgess, of the Columbia University, and especially to his closing remarks:

"It was infamous and highly selfish of England to excite the opposition of Belgium against Germany, who stood with an army of a million soldiers at the frontier and begged for a free passage and especially more so, since England was fully aware that she could not render any timely help to Belgium. England has abused Belgium and sacrificed it for her own interests."

The phrase that "Militarisme" of the Central Powers must be fought is entirely invented by England, who has let loose this disastrous war in order to maintain her "Marinisme," to exterminate Germany by concluding a treaty with the yellow race and brings its Asiatic Colored races over the seas.

Many unscrupulous politicians in France have artificially nurtured the Revenge-Idea and have sacrificed millions to the Zarismus, which drowns every idea of freedom in blood. The French Republic which

proclaimed the Rights of man more than 100 years ago now is the ally of the Autocrat of all the Russias.

In 1870, Germany was attacked by France, who not being satisfied with Alsace-Lorraine, wrenched from Germany more than a century ago in a shameless booty-war, wished to extend her power beyond the Rhine. Before God and the world Bismarck was justified in bringing back the robbed provinces to Germany and fortifying the German frontier against France.

But England alone must answer for the responsibility for the outbreak of this dreadful war before the present and future generations.

Here I beg leave to quote the following lines which appeared in the *Illustrated Zeitung*, Leipzig, 17 September, 1914, under the title: "England's responsibility for the Folk's War, etc." written by Prof. Franz von Liszt, a world-famed German jurist of Austrian birth.

"The German people washes its hands free from the blame of the great war. We tried until the last moment to maintain peace, and when the war was inevitable we did everything in our power to locate its boundaries. German readers do not need any further details. Neither does Austria-Hungary bear blame. For years, especially since her defeat by Japan, Russia has planned in every conceivable manner the extermination of her supposed rivals in the Balkan Peninsula. Only in justified self-defence has Austria-Hungary unsheathed her sword. If she had submitted to the assassination transferred to her territory, besides all the other Servian provocations she would have ceased to exist as a Great Power." Further:

"The desire of France to regain her lost provinces is understood by us. We explain Russia's mania for conquest by taking into consideration the very great Asiatic characteristic features of this State. But the motive why England should wage war remains absolutely a puzzle for us, according to our political thoughts and our legal and moral perceptions. We stand transfixed with horror here before a suddenly opened abyss. The German Empire has never inflicted a loss on England, has never wished for anything from her. And England has no claims against us like it always had against France, and as it still has to-day against Russia. Our colonies too, cannot seriously irritate Great Britain whose territories extend over five continents. . . .

"But our German external commerce has increased from year to year, made greater progress than the English, and our commercial figures have almost from year to year pushed forward nearer and nearer to the English. We have worked with greater efforts than the English and have thus obtained greater results. And therefore, the extermination war against us. Only for the sake of money has England caused all this

horror in the world. Only for money has England instigated her confederates, with Romans and Slavs to attack the kindred-race German folk, and brought the Black and Yellow races into action against European culture. For money's sake she wages war with every means, unconcerned about the simplest and clearest rules of international law, disregarding the royal prerogative of neutral states, violating all sealed treaties, with lies, calumny, and with dum-dum bullets."

With the weapon of peace through the care of science, art, industry and commerce, Germany and Austria-Hungary have made, as Dr. Eliot admits, in the last 40 years of peace an unparalleled progress and her only crime was that she had become uncomfortable to England in this peaceful world-war. English hypocrisy scourged by her own writers, from Byron, Thackeray to Shaw, pretends to fight for the independence of other states. Who is so naïve to believe that England wages war uninterestedly for others? It is painted with blood in the pages of history how England always invaded other lands only for her own advantage, and for commercial interests.

If the world is threatened with a danger, it is not the German Militarisme but the English Marinisme, the English piracy and sea-tyranny.

Jefferson, the great President of the U. S. A. wrote a hundred years ago:

"The conquest of Napoleon was only half-ways towards the deliverance of the world from tyranny; the greatest robber of the Ocean remains."

All States which took part at the Conference of The Hague agreed to the proposition for the protection of private property on the sea. England alone spoke her mind against the repeal of piracy and in this war alone has appropriated millions worth of private property.

England has always waged war against any land which began to strengthen its navy and mercantile navy. In the course of time it has annihilated the fleets of Spain, Holland and France, and now Germany should suffer the same fate, because she has dared to want part of the Ocean.

Dr. Eliot hopes for a peaceful development and condemns the preparation of the European States. This is surely the devout wish of everyone, but which nation will make the beginning and wish to stand unprepared opposite the other?

He passes over in silence that his mother-country, the U. S. A., endeavors more and more to enlarge her fleet in order to meet any future event ready armed. The only possible entanglements for the U. S. A. are to be sought in eastern Asia—in Japan, the ally of England, France and Russia.

Dr. Eliot concludes with:

"American sympathies are with the German people in their sufferings and losses, but not with their rulers, or with the military class, or with the professors and men of letters who have been teaching for more than a generation that "Might makes Right."

I can only point out that this assertion is a pure invention, and challenge him to prove, where the principles of "Might for Right" (which is entirely unknown to the German people) are laid out in the German literature.

It is finally incorrect to assert that this war has been concluded by ruling heads alone. In the German Reichstag there are more than 100 socialists in the opposition party, and the proposition for the defrayal of the war expenditure was unanimously accepted by the Reichstag.

The citizens of Austria-Hungary are of 8 different nationalities, but all are of the same mind as regards the defence of their mother-country.

I hope to see this explanation printed in the next issue of your esteemed paper and remain, dear Sir,

Yours faithfully,

JULIUS WEISS.

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#### ASSISTANT MUST POSSESS LICENSE

(*Oklahoma*) A person who does not possess a valid, unrevoked certificate from the state board of medical examination is not entitled to practise medicine or dentistry under the laws of Oklahoma, except in emergencies and such other cases as are specifically exempted by the statute. And this is true though he worked with or under the direction of a duly authorized practitioner, and it is immaterial whether he works for a fee, percentage, or on a salary, and a physician or dentist who is authorized under the laws of this state to practise has no more right to aid one who is not properly authorized to evade the law than such unauthorized person has to act on his own responsibility. The medical practices act, as well as all other laws of the state, were enacted to be observed and enforced, and not to be evaded and violated. The Oklahoma Supreme Court has so held in *Gobin vs. State*. Gobin was convicted in the County Court of Marshall County of having practised medicine without a license. He was fined \$250 and sentenced to sixty days' imprisonment. The case was taken to the Supreme Court for review. From the record it appeared that Gobin was not possessed of a state medical license, had been in the employ of one R. W. Freeman, a licensed physician on a salary;

that he had practised as the assistant of said Freeman; had collected fees for his service and had paid them over to Freeman. The Supreme Court affirmed the conviction against Gobin. Justice Armstrong, in delivering the opinion of the court said, "There is no question but that Gobin's conviction was entirely proper, and the judgment as to him should be affirmed. In *State vs. Paul*, 56 Neb. 369, 76 N. W. 861, the Supreme Court of Nebraska, having under consideration the proposition here involved, says: "A person not being a registered physician, nor acting gratuitously under an emergency, nor being a commissioned surgeon in the army or navy of the United States, nor being in the occupation of a nurse, nor administering usual or ordinary household remedies, who, for a remuneration, treats any physical or mental ailment of another, is within the condemnation of the statute, even though he acted under the directions of a registered physician." The statute being construed by the Nebraska court is similar to ours, the purpose being the same.

The medical practices act does not any more contemplate or authorize a registered physician going out and employing all the unauthorized quacks in the country to aid and assist him for a compensation or otherwise, except in emergencies, in the practice of medicine, than it does the employment for the same purpose of the section hands on a railroad. The law is not only intended to protect legitimate practitioners, but also to protect the public against being imposed upon by an incompetent person holding himself out as a physician. The laws of this state were enacted to be observed and enforced, and not to be evaded and violated. It is evident from this record that the plaintiff in error, Freeman, was seeking to aid Gobin in evading the law, and in doing so both of them violated it and incurred its penalties.

We have considered carefully and thoroughly the entire record in this case and are of opinion that the judgment of the trial court should be affirmed as to each plaintiff in error in both cases, and it is so ordered. (*Gobin vs. State*, 44 L.R.A., 1089.)

#### REGISTRATION OF DENTISTS

(*Missouri*) Missouri laws regulating dentistry, prohibit any person not a "registered dentist" from practising his profession. It provides that all persons desiring to "begin" the practise thereof holding a license from a state dental board, or a diploma from the faculty of some reputable dental college, shall have the right to apply to the board for examination and license if qualified, and that all dentists licensed by the board "or any previous board" are entitled to a renewal license on application each year. Held, that a dentist who had merely filed her diploma under a prior law with which she had not complied, and who had never been



licensed by any previous board, was not entitled to a renewal license under the Act of 1905. (*State ex rel. Brown vs. McIntosh*, 205 Mo. 616.)

#### CHARGES AGAINST MEMBER OF MEDICAL SOCIETY

(*District Columbia*) Where the by-laws of an incorporated society, such as a dental society, provide that, if charges be made against a member, such charges shall be preferred to a committee, who shall investigate and report at a regular meeting, and that, if such charges have been sustained, the member may be expelled by a two-thirds vote of the society, provided he has had an opportunity for defense, the action of the society in expelling a member will not be interfered with by the court, where it appears that this procedure has been duly followed; and it is not essential that the evidence on which the charges are based shall have been submitted to the whole society. (*Bryant vs. Dental Society*, 26 App. D. C. 461.)

#### FEE FOR SERVICES

(*Massachusetts*) A divorce decree provided that defendant should pay \$10 a week for the support of his two children, the custody of which was given to the mother, and the expense of necessary medical attention to be rendered the children by a specified doctor. This doctor died, and it was agreed that another physician should be substituted; and, one of the children needing the services of a dentist, the substituted physician recommended plaintiff, who performed an operation for the child. Held, that defendant's liability for medical attention for the child was limited by the terms of the decree, and hence he was not liable for plaintiff's services, rendered without his consent. (*Ryder vs. Perkins et al*, 107 N. E. 387.)

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### TO REDUCE SHRINKAGE AND LEAD TO ACCURACY IN GOLD INLAY WORK

By J. H. HARRISON, D.D.S., HAZLETON, PA.

I lay no claim of originality on the various steps of technic described here, yet to many I am sure that some of these steps will be new, and I present them all because each is correlated to the other, and in the aggregate the technic therein described has led to more satisfactory results in my hands than any other method.

First use a good inlay wax, one that when chilled in the mouth becomes sufficiently brittle that it will break before it will bend. You cannot distort a wax pattern of this sort in withdrawing it from the cavity. If your cavity preparation is at fault it will tell you so, if your

preparation is correct you will get a beautiful pattern as a result. Several of the so-called standard waxes do not measure up to this requirement.

Coat the cavity with equal parts of glycerine and castor oil to facilitate the removal of the pattern, press the wax to position and chill thoroughly. Carve to form and occlusion, reproducing cusps and grooves, wipe pattern with oil of cajuput to give smooth glossy surface, and remove.

To reduce shrinkage, use a double investment and mix the investment with water that feels somewhat warm to the finger. By using an investment warmed to approximately the temperature of the mouth, we compensate for any shrinkage that may have occurred in the chilling of the wax. Mount the pattern on sprue wire ready to invest, mix a small amount of inlay investment to a thick creamy consistency, do not stir as this produces bubbles. Paint the pattern and sprue former with the mix and build up the investment around the pattern and sprue wire until all is covered with a thickness of investment varying from  $\frac{1}{16}$  to  $\frac{1}{8}$  of an inch. Now make a second mix of a good coarse bridge investment material (writer uses Brophy's) and mix it *stiff*. By the time the mix is completed the first investment will be sufficiently hard.

To maintain form, pour second investment to fill the flask and jar thoroughly. The first investment prevents the bubbles from coming in contact with the pattern and the jarring brings them to the surface and makes a more dense investment. As soon as the investment is set the flask should be placed over a slow fire to dry out, and when dry the flame should be increased to burn out the wax. The wax should volatilize in ten minutes, after which the flask should be removed from the flame and given approximately ten minutes in which to cool after which the casting should be done using a needle point flame on the gold and heating the flask as little as possible.

The bridge investment which forms probably 90 per cent. of that contained in the flask will shrink much less than the most perfect of the best inlay investments and will heat up and go through the casting without the least sign of cracking or drawing away from the edge of the ring.

For casting gold the writer uses equal parts of 24K gold and 22K plate, saving plate scraps for this purpose, and finds this combination more satisfactory than pure gold, gold and platinum or gold and 22K solder as recommended by some writers.

In finishing the margins use small carborundum stones, always grinding toward the margins—these will draw the gold and give the slight lap so necessary at this point. Plug finishing burs should never be used on the margins as these cut and do not draw and instead of increasing and perfecting your lap, they will cut away that portion which you have already provided with your wax pattern and expose the bevel of your margin.

## CORRESPONDENCE

Chicago, March 16, 1915.

GEORGE W. CLAPP.

DEAR SIR:—I have read the article Dr. L. K. Hirshberg has written in which he fires a broadside in a miserable style at the dental profession concerning the useless extraction of teeth.\*

I am truly shocked at this unwarranted lack of knowledge on the part of the eminent doctor, who as a teacher of dental students, should have more grasp of present existing conditions of the dental profession than other medical men.

In the first place, he claims "That medical methods have progressed while the science of dentistry has moved as slow as a tortoise." True it is that the medical profession has made wonderful strides but quite as wonderful has been the dental progress.

We are gradually educating the public and yes, even the medical profession, to understand that a clean mouth and well preserved teeth mean better health. Our work in public schools, the Forsythe Institute and similar instances show the advance of dentistry.

Greater efforts are made at present to save and retain the worst cases of broken-down, putrescent, abscessed teeth and roots, than ever before. But there are those cases of hopelessly diseased loose teeth and roots, caused by the ravages of pyorrhea, syphilis and diabetes that by being extracted would benefit the patient more than by allowing them to remain and constantly be a source of discomfort and infection to the surrounding parts of the oral cavity.

We are not to be likened to barbers as Dr. Hirshberg claims but we belong as much to the science of medicine and surgery as the physician or surgeon does and, within our own field we are trying out best to advance. We *are* advancing and I believe we know more of our branch of the profession than any physician would probably know.

My advice to Dr. Hirshberg would be that he have as much respect for the American dentist at large as the American dentist has for the medical profession at large. Let well enough alone.

Let me say in conclusion that we are just as sincere in all we are doing and trying to do to better our knowledge as the medical man is, and I think Dr. Hirshberg of Johns Hopkins could do more good by dropping his "2 cents a word" demand and making some sort of an explanation for his paper.

F. W. A.

\*March Digest, page 161.

KELLERTON, IOWA, Mar. 12, 1915

*Editor DENTAL DIGEST:*—In your February issue page 121 Dr. D. W. Barker gives his way of repairing a bridge which has had a facing broken off, also the pins. After reading it I thought I had been doing it in some ways, superior to his way and I will describe my way without pointing out the superior advantages, leaving the reader to decide that for himself.

I don't drill the holes through but only about half the length of a pin or pins which I use instead of the gold screws. I drill into the backing at any point that suits me best, usually in the region of the old pins but not necessarily there, if any other point would be more advantageous on account of thickness or for any other reason. After I have the holes drilled I take an inverted cone bur and widen the holes at the bottom and then I take the pins which I get from a porcelain vulcanite tooth (usually an old one) and I set them into the holes with cement and as it stiffens up I am careful to put the pins in just the position I want them. Then I remove all excess of cement and get ready to build on the facing with synthetic porcelain. When all is ready I draw a strip of rubber dam between the bridge and the alveolar ridge so as to have a dry territory to work in. The dam should be stretched somewhat over the ridge which can be done easily with the left hand of the operator or by the assistant at the same time retracting the lip and keeping it out of the way.

The dam must be kept smooth and have no wrinkles under the facing, which is to be built against the ridge ordinarily. After the facing has become ridged enough to be covered with wax the dam can be drawn down around the bridge from the two sides and held so as to exclude most, if not all, of the moisture from coming in contact with facing until you are ready to let the moisture to it. I sometimes draw the dam down tightly over bridge and tie a string around the two ends close up to the bridge instead of holding it.

Yours sincerely

JOHN M. HAVELY.

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### CORRECTIONS

In the April DIGEST, page 213 the little poem, "A Christmas Gift," was left unsigned. The author was Fannie Bogart, Marinett, Wis.

In the same issue, page 220 in the formula given for Root Canal Filling, "Album," should read Alum

**CAN YOU IDENTIFY THIS WOMAN?**

BY THE DETECTIVE BUREAU,  
*Police Department, City of New York.*

On April 10, 1915, the body of an unknown woman was found murdered in a vacant lot at Noble Avenue and 177th Street, the Bronx, New York City. Description:—

About 23 years of age, 4 feet, 10 inches, 125 pounds, auburn hair, brown eyes, well built, and dressed in a green dress and black plush coat, with blue lining, and a light fur collar. She had "Two Davis pivot crowns, on right and left upper centrals and a gold crown on first left lower molar."

Kindly examine your records, and compare the above work with same.

Any information concerning the above work is very important, as it will lead to the identification of the murdered woman.

Please notify Inspector Joseph A. Faurot, Detective Bureau, 240 Centre Street, New York City.

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**IS THE BLOOD OF THE WORKING CLASS THINNER  
OWING TO DEFICIENT NUTRITION?**

*Editor DENTAL DIGEST:*

I am practising in a working class district and am troubled greatly with hemorrhages after extractions. Previous to starting here I was in the city dealing with good class patients and only once had a hemorrhage.

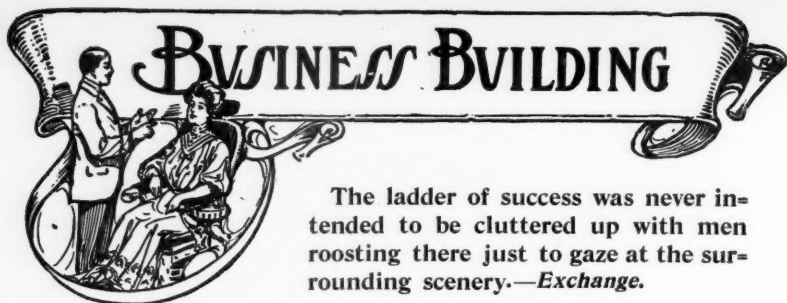
I am using the same local anæsthetic and instruments which I have been using for some years past.

Do you think the blood of the working class people is thinner owing to deficient nutrition?

Yours sincerely,

C. J. A. T.





The ladder of success was never intended to be cluttered up with men roosting there just to gaze at the surrounding scenery.—*Exchange.*

### A FEW WORDS BY AN ADVERTISING DENTIST

BY L. L. POLLOCK, D.D.S., SAPULPA, OKLA.

Much has been said and written upon the subject of the so called Advertising quack, Unregistered and Unprofessional Dentist.

I cannot see where an honest advertiser is any more incompetent or unscrupulous than the ethical practitioner, nor where his standard is any lower so long as his advertising is honest and does not tend to deceive the people.

No matter how skillful a dentist may be his business cannot prosper if the people do not know of it. Housing yourself up like a clam refusing to let the people know what you can do, does not draw.

When a man sends out an invitation, it is quite evident that he would be most likely to try to please you by giving you your money's worth.

I know a great many dentists that are starving to death (so to speak), because of the fact that their ethical professionalism has taught them to keep themselves secluded; probably on the top floor of some office building or on some side street and afraid to advertise their business, because of the risk of losing caste.

Very often I know of this class of men, they wake up and get wise to themselves and realize that if they are not doing any business and become financially depressed, their dental societies are not going to keep them up; hence they are forced to try another method, which they find a great deal more profitable than the method of being housed up like a clam, and by honest advertising they will turn out just as good work and receive as good, or I might say better, remuneration, than a great many ethical men.

I am personally acquainted with a man who is now secretary of a Dental State Board (I will call him Dr. Jones). I do not know whether or not he is advertising now, but he did advertise up to the time he applied to the Governor of the state for the Chair. There was another dentist in the same town, (whom I will mention as Dr. Smith) and who was a fanatic with regard to Dental Ethics, and who became very much

peevish because of the fact that Dr. Jones, being an advertiser, was applying to the governor for the secretaryship of the State Dental Board. Dr. Smith became so very much interested in the affair, that he made it a point to be in the Governor's office at the same time Dr. Jones made his appeal, whereby Dr. Smith explained to said Governor, that Dr. Jones was not eligible for that office, because he did not live up to his ethical requirements, owing to the fact that he had been and was then advertising in a theatrical programme.

(I want to say right here, that you may appreciate this, that Dr. Smith was backing a small concern that was manufacturing a hair tonic guaranteed to grow hair on the baldest head.)

The Governor asked, "Dr. Jones, what are your ideas of an Ethical Dentist?" Dr. Jones, thought and scratched his head for a minute and replied: "Your Honor, I think that any man that publishes a statement in the paper, or advertises his business and lives up to his advertisement and produces the goods, must be recognized as ethical." Dr. Jones turned and pointed his finger at Dr. Smith's head, which was as bald as an ivory ball, saying, "Governor, your Honor, look at that man's head, he manufactures a hair tonic and guarantees to grow hair on the baldest head," then he laughed and remarked: "Is that what you call ethical?" Dr. Smith did not reply.

The Governor laughed and shook hands with Dr. Jones and said: "You Win."

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### VALIDITY OF AGREEMENT NOT TO ESTABLISH COMPETING PRACTICE

A. L. H. STREET, ST. PAUL, MINN.

The Illinois Supreme Court has just been called upon to determine the validity of an agreement by a dentist not to reengage in practice in certain territory on termination of a contract made with another for the conduct of a dental business in that territory. The question arose in the case of Tarr vs. Stearman, 105 *Northeastern Reporter*, 957, and the Supreme Court declared that, under the particular circumstances of the case that the agreement must be deemed to be unreasonable and void. It appears that plaintiff engaged defendant to manage a dental office at Springfield, Ill., under a contract whereby the latter was to become the owner of the business on making certain payments. The agreement contained a clause to the effect that if defendant should leave plaintiff's service, he would not engage in the dental practice in Springfield or within



twenty-five miles of that city, without plaintiff's written consent. Treating the agreement as one of employment, and claiming that defendant had broken his part of the contract, plaintiff terminated the relationship and afterward sued to restrain defendant from reengaging in the practice within the prohibited territory. In refusing to grant an injunction, the Supreme Court handed down a lengthy opinion of which the following are important excerpts:

"Counsel for plaintiff further contend that a court of equity had jurisdiction to enjoin defendant, on termination of the contract by forfeiture or otherwise, from engaging in the practice of dentistry, either directly or indirectly, in the city of Springfield, or within 25 miles thereof. It has always been the policy of the law to promote the freedom of engaging in and carrying on all kinds of trades and professions which are beneficial to the public. Formerly by the common law all contracts in restraint of trade were void. The law on this subject has undergone change, and the authorities at the present time are not in harmony. It is sometimes said that equity is loath to enforce a contract in restraint of trade, even though it be good law, if the terms are harsh or complex. The authorities now generally agree that contracts in partial restraint of trade are valid if reasonable as to time, place, terms, etc., and manifest an intention to protect the party relying upon the covenant in the reasonable restraint of unjust discriminations against him. The reasonableness of such contracts, as between the parties, is the test in those cases only where the public interests, also, are involved. Even though a contract be fair and reasonable between the parties yet if it is so injurious to the public interests that public policy requires that it should not be enforced it will be held void. . . . A contract which is only in partial restraint of trade will be held valid if it is reasonable and has a valuable consideration to support it. In such cases the adequacy of the consideration is not a question for the courts. In construing all such contracts, however, the interests of the public must be held paramount. In all such contracts the law has regard not only to the financial profits to be made from trades or professions, but the convenience of the public as well. The convenience of a given community or locality will be promoted if every such locality has its proper accommodation and service from every art, trade and profession; hence the authorities generally state that a contract in trade or profession in any given locality will not be upheld, unless it is shown that the place of such individual so restrained is to be supplied by some other person of the same trade or profession. The public have an interest in and a right to the skill of defendant in the business, trade or profession in which he is the most successful or useful. Plaintiff is not licensed and cannot practice dentistry in Illinois in the place of defendant.

One of said paragraphs provides that 'after he (defendant) ceases to be connected with said party of the first part under this contract, whether said relation is terminated by expiration of contract or otherwise,' he will never practice, directly or indirectly, on behalf of himself or others, in Springfield or vicinity. The obvious meaning of this section is that, even though defendant makes all payments and performs all the conditions, and after plaintiff has conveyed the property and business to him, yet he can never practise dentistry within the limited territory. This paragraph is repugnant to the other provisions of the contract; but counsel for plaintiff contend that the paragraph, read in connection with the rest of the contract, should be construed as meaning that after the contract has been completed according to its terms, and the business and equipment assigned by plaintiff to defendant, the former has thereby given his written consent to defendant to practise dentistry within the limited locality. The party complaining of an infraction of a contract in restraint of trade will be held to a strict interpretation of the language of the agreement. So construed, we think that all of the provisions of this contract relating to this question must be held unreasonable and void."

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### SHOULD THE DENTIST ADVERTISE?

BY L. GEORGE BEERBOWER, D.D.S., TERRA ALTA. W. VA.\*

Certainly the dentist should advertise. Advertising is only a synonym of publicity, of the giving of information.

The very life of the profession is its obligation to give, to impart to others or share with them the knowledge we have.

The mere fact of possession brings the obligation of giving. If knowledge is possessed by the profession it is obliged to give it attractively, forcefully, honestly; give it verbally through the printed circular or the public press.

You would not use a moving picture machine to throw pictures on a screen by your office door to tell to the public how much superior your work is than that done by Dr. B., but why not use the picture on the screen, or word painted, to tell the public how much better the health and appearance of the individual is who has had dental services than the one who has not.

It would add interest; it would attract the young people and invite coöperation.

\*Read before the Monongahela Valley Dental Society, Grafton, W. Va., October 3, 1914.

Surely every honest, progressive dentist desires the public good and seeks these ends in reaching the young people of the community, for they will be the leaders of to-morrow.

The subject of dental advertising, or publicity, if you please to name it that, is the biggest subject we have to deal with as a profession. Until very recently the only source of information open to the public, aside from what the dentist might say to the patient while in the chair, was what the newspaper contained in the way of paid advertising of the rank-est kind from charlatans of the basest sort.

Many advertisers of to-day are of a different type from the fellow we think of when we refer to "the advertising dentist"; they are clean, honest men, whose integrity cannot be questioned and whose social standing in the community in which they live is of the very best.

They are men who look at the business side of dentistry in a different light from that in which we view it. Yet they do honest work and get good results; they have caught a vision of the ever-increasing possibilities open to our profession and are forging ahead to secure their share of the patronage that will go somewhere.

And, after all, why not? We all recognize, and have for years, that there is not one-half the dentistry being done that there should be, and have all been working on one scheme or another to call the attention of the Boards of Education to the growing needs of dental inspection in the public and private schools as well as the eleemosynary institutions of our State.

We all agree that this would mean increased business, or clientage, if you like the term better.

Then why not change our methods somewhat and do some honest advertising, give the newspapers a dollar for a dollar's worth of space and sufficient brains to fill that space with an article that will make people sit up and take notice of the fact that they need our services and that they need them badly enough; that they will pay what it is worth to have their troubles eliminated or prevented, as the case may be?

You cannot curb the innate idea of business in the American that it is necessary to advertise.

We do it through the church bulletin, through our friend who reports for some newspaper, through the prayer meeting, our clubs, etc., but view it as you will "everybody's doing it."

Now there is a reason for all this; our code of ethics is obsolete, therefore we must find some way to get around this and take care of the business side of dentistry; hence, the many ways of advertising that are not advertising, at least in the eyes of the profession.

What we need is a broader and better but yet a conservative code of ethics.

We need more publicity under the strict supervision of the publicity committee of our State and local societies.

It would be the duty of this committee to send out leaflets and pamphlets, arrange for lectures and otherwise diffuse sound information, such as papers or parts of papers on Oral Hygiene and like subjects read before our societies.

It is hard to understand that the members of a profession must act as a unit and that the weakness of any one of the organized profession must reflect on all.

Hence, we should make an earnest effort to uplift general standards that all may benefit by it, and not let a few share the best financial rewards and in some cases through devious channels of crooked publicity.

We should not hide our candles under an ethical bushel.

We knock the advertising dentist, but yet we profit by his publicity campaign, rotten though it may be.

Let's make an honest effort to get them to cut out the objectionable features and join us in a new code of ethics which will promote good will and the proper professional feeling among dentists and confidence in the public, who will then rely on the skill and honesty of their servants.

We should bestir ourselves in this State to get our standards ever higher, to the everlasting increase in prestige, self-respect, profit and satisfaction of the dental practitioner in whatever community he is found within the borders of this State.

Thus, and only thus, will the profession increase in dignity and material gain, and every worthy practitioner feel the new spirit.—*Oral Hygiene.*

### DOES THIS APPLY TO YOU?

I'm wondering what kind of professional men  
You dentists would be if you all tried again.

With experience you've had, and mistakes  
made galore

If you tried it again, would you do as before?

Would you advertise or abide by the code?

Have plenty to do or sit down and corrode?

Have business about you with system  
thrown in

Know your overhead cost to help you to  
win?

Were you the fellow who bought a "gold-  
brick"

Of a mining-stock agent to "get-rich-  
quick?"

Would you try it again or would you get  
"sore"

If a shark came along to sell you some  
more?

We dentists are easy, or so I've heard tell,  
For silver tongued fellows with something  
to sell.

Why not "cut it out"; get something in  
store;

The time will sure come when you'll prac-  
tice no more.

Ignore the smooth fellow who calls for  
"YOUR sake,"

Just take it from me, he's a thoroughbred  
fake.

Go salt your plunks down, and be sure  
they're secure;

Returns may be slow, but returns will be  
sure.

T. A. L.

## A PLATE RECORD

By R. C. KESTLER, D.D.S., HUMESTON, IOWA.

## Plate Record

Name Mrs. Jno. 1904  
 Residence Sta. Morris, Iowa  
 Teeth Extracted Jan 1 - 1914  
 Numbers 1-2-3-7-9-12-13  
24-25-26-27-32  
 Impressions Taken March 4<sup>th</sup> 1914  
 Try In March 8<sup>th</sup> 1914  
 Put In March 16<sup>th</sup> 1914  
 Plates, Upper Full - Gold 10 rest  
rubber, Eureka Suction  
Aluminum lining  
 Plates, Lower Lingual Bar -  
Clasps on R 2<sup>nd</sup> and L 1<sup>st</sup>  
Vicuspids, Williams Oval  
 Teeth Trubyte  
 Upper Mold 4M Shade 9.T.C.  
 Lower Mold " Shade "  
 Price, Upper \$22.50 Credit by Ex. \$6.00  
 Price, Lower \$15.00 Credit by Cash \$20.00  
 Bal. Due \$11.50 Paid in full Apr 3 1914  
 Remarks Soft ridges - flat vault.  
Upper lip sunken.  
 Repairs  
 Upper 10/6/14 2 Cr. 2 Dr. 2  
 Lower " " " " " "  
 Laboratory C. G. - Chi. Mar 12 1914

I have waited for several years for someone to get out a good plate record, but have found nothing as yet that seemed as convenient as the one I am putting out and which is pictured here.

By having a separate record for dentures, it makes it convenient and sometimes, besides saving the ledger, quite a good deal of space.

I would be pleased to have the opinion of the DIGEST readers, also any suggestions or improvements for making the record more satisfactory or complete. It seems to me that anything that saves time in recording work is very necessary to the busy dentist, and I have found this plate record an excellent timesaver.

I should be pleased to correspond with those who may be interested.

McCULLOCH BLOCK

April 6, 1915.

## Editor DENTAL DIGEST:

I am trying to work out an adequate preliminary examination blank for the use of dentists, upon which a detailed record of the examination can be made. Can you tell me what men in the country have such blanks. I will appreciate very much anything you can do for me.

Very truly yours,

O. DE FOREST DAVIS,  
 404 Donaldson Bldg.,  
 Minneapolis, Minn.

## A LETTER TO BROTHER BILL

March 4, 1915.

DEAR BROTHER BILL:—

I have read your letters for several years and have to a certain extent tried to follow your advice, but I am up against a proposition, so am stating my case to you with the hope that you will give me some advice as to what course to follow:

I am located in a small town and have been out of school about five years. I give my patients the very best work that I can do and I have had no complaints, but they all yell "robber" when I name my fee. Now I can almost see you laugh when I tell you what my charges are, but seriously this is not a laughing matter with me and I hope you will try to help me as you have so many others.

Here are the prices that I try to get. One dollar for amalgam fillings; one to two dollars for gold fillings; one dollar extra for treating teeth or removing nerve; five dollars per tooth for crowns and bridge-work and fifty cents for extraction.

This isn't the only class of work that I am capable of doing for I have tried hard to keep up with the times and can make inlays, removable bridges, etc., but owing to the fact that I can't get living prices for this work it is very seldom that I do any excepting as experiment work. No other dentist is in this town with me but there are three others located in the county seat near here and two of these seem to be about in the same fix with me.

The other one is the proposition we are all up against.

He has been in active practice in same location for about thirty years and has at some time done work for some member of every family in the county and at what I consider worse than starvation prices. He does substantial work and seems to have made money.

He has the same equipment in office that he began with and attempts no kind of work more than that which I have named in regard to my prices. He seems to enjoy the confidence of all the people and they think his word is law, so when he tells them that inlays, etc. are no good they believe him. Only yesterday I finished treating an abscessed tooth and filled it. When I told this patient my charges were \$2.00 he almost fainted. Said Dr. H. had been doing this work for years and had never charged him for just treating a tooth and only charged 50 cents for filling.

Some time ago a man brought his wife in to me to see about having a plate made and eight fillings put in below. Two teeth were to be treated. I named a fee of \$10.00 for plate and he wouldn't even wait to hear the

rest but said he couldn't pay it. A few weeks later he came in again with his wife to show me what Dr. H. had done. Let me say right here that this man was honest in his convictions and really thought that I was charging him too much.

Well, I looked at his wife's mouth and I must say that she had a good plate and the fillings seemed to be all right. Dr. H. had charged her \$9.00 for the job.

From the above I believe you can see what I am up against so am again asking that you give me some solution for it and I promise to follow your advice faithfully even if I have to move my location. I have a family that I think a lot of and I not only want to support them but want to save something for old age, but unless I begin to get better prices soon I won't be able to do either. Hoping to see an answer in DIGEST soon,

I am, fraternally, your friend,

"CAROLINA."

### BABY EXPLAINS

We were riding on the Flyer—all the fam'ly  
going South;  
I was feeling very comfy—pacifier in my  
mouth.  
A Doctor Man, in front of us ast the priv'lege  
to inquire  
If Mother thought 'twas good for me to  
use a pacifier.

Oh, my! 'twas hard to give it up! whatever  
should I do?  
They wouldn't let me suck my thumb, for  
*that* was harmful, too.  
But now the worst is over; and I can hardly  
wait  
To see about the *contour*, and if my teeth  
come straight.

And then the Doctor 'splained to her (as  
we were going South),  
How it would surely spoil my teeth and the  
*contour* of my mouth.  
And then he said an *awful* thing—how,  
sometimes, it would make  
Cankers in the 'sofigus! and cause a *stum-*  
*mick-ache!*


When I get big, and see a child who has a  
pacifier,  
I'll surely hunt the mother up, and do my  
duty by her.  
I'll tell her all 'bout *contour*, and spoiling  
baby's mouth—  
And all the things the doctor said, when we  
were going South.

He said it used the s'liva up, and thought it  
*might* cause *worms!*  
Besides, 'twas such a *dirty* thing, all covered  
up with germs.  
This scared my mother, dreadful; and before  
we'd traveled far,  
She grabbed that pacifier and threw it from  
the car.

But how *many* babies' mothers I can never,  
*never* see.  
Can't *someone* help me tell them how care-  
ful they should be?  
Wish every child who sucks its thumb, or  
has a pacifier,  
Could meet a nice, good Doctor Man, like  
I did, on the Flyer.

DOROTHY JEAN MILLER, from "Women's Home Companion."





# PRACTICAL HINTS

[This department is in charge of Dr. V. C. Smedley, 604 California Bldg., Denver, Colo. To avoid unnecessary delay, Hints, Questions, and Answers should be sent direct to him.]\*

**TO KEEP CLOTHING CLEAN WHILE TEETH ARE BEING EXTRACTED.**  
—In extracting teeth under gas, I have frequently found it difficult to keep patients from soiling their clothes by spitting blood before they fully regain consciousness, regardless of a large towel. I have overcome that trouble by using a small "kidney pan" such as used in hospitals. It is much easier than trying to hold a half conscious patient over the bowl.—A. F. DONAHOWER, D.D.S., Philadelphia, Pa.

**TO REMOVE MERCURY FROM A GOLD INLAY BEFORE BEING SET.**—Take a cover from a small tin ointment box, put the inlay in and cover with sulphuric acid. Hold over a flame and let boil until inlay looks black, then drop same into alcohol. This holds good for jewelry also, providing settings are removed before boiling.—G. E. MELCHIOR, D.D.S., Algoma, Wis.

**TO MAKE A GOOD CASTING APPARATUS AT LITTLE COST.**—Instead of paying a high price for a casting machine, any operator can make an inlay casting tool in a few minutes, at the cost of about ten cents. Ask your plumber or the hardware man for an elbow of a water pipe from  $1\frac{1}{2}$  to 2 inches in diameter; pack it well with wet paper of any kind, leaving one opening quite concave. Over this end apply a twofold sheet of blotting paper which is to be saturated with water before each operation. When your inlay investment is ready for casting press with this article the usual way. This is the inlay casting apparatus I have been using with great success for over one year.—E. D. AUCOIN, D.D.S., Montreal, Can.

**DO NOT SUBSTITUTE METALLIC LINING FOR METAL PLATES.**—The idea that the metallic lining of a vulcanite plate will prevent the heat producing effects of the vulcanite is a mistaken idea, for it would seem from a moment's thought the cause still remains—the metal does not accomplish anything for the vulcanite still holds back the heat.—L. P. HASKELL, D.D.S., Chicago, Ill.

\*In order to make this department as live, entertaining and helpful as possible, questions and answers, as well as hints of a practical nature, are solicited.

**TO GET THE RIGHT BITE.**—Get out your N<sub>2</sub> O+O machine, obtain analgesia. They can't bite wrong if they want to.—R. L. LAMPHERE, D.D.S. Duluth, Minn.

**EFFECTIVE METHOD OF REMOVING A BROKEN REAMER OR BUR FROM A ROOT.**—The following is a simple method for removing a reamer or bur broken and lodged in the recesses of a root-canal: Two thin but stiff nerve broaches are set into a broach-holder, and passed into the root one on each side of the broken reamer. If the latter hugs the root walls too firmly, a small round bur is used until the broaches can be passed between the fractured bur and the root walls. The broaches are then twisted around the obstinate fragment. The operation may not be successful in the first few attempts, but anyone who tries this method will be agreeably surprised to find how firm a grip the broaches take on the broken bur.—M. H. FELDMAN, D.D.S., *The Dental Outlook (The Dental Cosmos)*.

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### QUESTIONS AND ANSWERS

**ANSWER NO. 1. TO REMOVE TIN FOIL FROM RUBBER PLATES.\***—After the case has been packed and tested out, cover the model with tin foil—any number of foil you desire to use—tap the foil to model with medium stiff tooth brush, then brush powdered gum tragacanth over the foil, close flask and vulcanize. The foil will peel off the vulcanized plate easily.—C. J. LACKEY, Charlotte, Mich.

**ANSWER NO. 2. THE BEST WAY TO REMOVE TIN FOIL FROM RUBBER PLATES.\***—In the absence of the acid as you suggest, if he will use a small amount of mercury on the tin foil and rub gently with his finger, he will be able to remove the foil in very few moments.—E. P. STUBBS, D.D.S., Chillicothe, Mo.

**Question.**—I have a patient, eighteen months old. Teeth all erupted and in good occlusion, has two upper left laterals, one next to central very slightly anterior to the arch; otherwise there seems to be room for all the teeth.

What would you advise?—L. H.

**ANSWER.**—This is a rare and interesting case. I have happened to see but one or two like it and have heard of only a few others. I think without question the thing to do is to let it alone at this time, watching it closely at time for eruption of permanent laterals. Think there may

\*These hints (No. 1 and No. 2) are answers to W. T. J., page 122, February Digest.

or may not be an extra permanent lateral erupted. If two appear, one should be extracted soon enough to permit space to close up in time for bicuspid and permanent cuspid to assume their normal positions.—V. C. S.

*Question.*—Will you kindly advise me as to the merits of a 10 per cent. solution of silver nitrate in treating pyorrhea. Also how often should it be applied?—M. W.

*ANSWER.*—Perhaps some other *DIGEST* reader will give you the information you wish. Personally, I believe that thorough instrumentation, with education of patient in daily care of mouth, and little or no medication is the correct treatment for pyorrhea.—V. C. S.

*Question.*—I want your opinion on two classes of cast inlay work.

No. 1. What do you think of casting gold in direct contact with porcelain? I mean, of course, to have porcelain as near as possible the same temperature as the molten gold, and also not to have the porcelain bound in anyway.

No. 2. What do you think of casting cusps, etc., to bands in making gold crowns and also casting gold dummies to crowns?—R. B.

*ANSWERS.*—No. 1. After some little experience in casting directly on to porcelain, in many cases with apparently beautiful results, I have discontinued the practice entirely, for too large a per cent., it seemed to me, came back later with porcelain flaked off. I found also in some cases where result appeared perfect if gold were ground off, checks were uncovered.

No. 2. I thoroughly approve of casting cusps to bands for gold crowns, and of casting gold dummies—also cusps for porcelain facings. If dummies are at all extensive, however, I think best to cast separately, connecting parts finally with solder.—V. C. S.

*Question.*—Will you advise me what to do in the following case. I have been treating a lower right second molar or wisdom tooth and have the posterior canal clean. The anterior canal has a broach or some kind of an instrument broken off in it. The canal is bifurcated, can only get about half way down in buccal, but not at all in lingual. The patient is a dentist, and he is up a tree also. Can you tell us what acid to use or can we use wax of some kind to fill canal? We are readers of your questions and answers in the *DIGEST*, and hope that you can help us. We want to save tooth for abutment.—W. J. B.

*ANSWER.*—Think you are probably up against it unless you can cut down beside the broken broach, enlarging the canal enough to work it

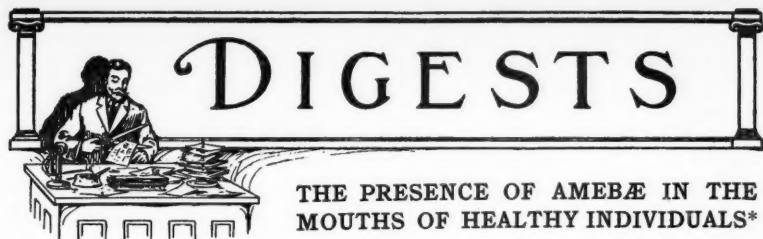
out. If it is a barbed broach, frequently it may be engaged in cotton fibers on a fine barbed broach carried down beside it and twisted until it tightens in the barbs of the broken piece. Sometimes two new fine barbed broaches held in one handle can be carried in straddling the broken piece, clinching on same and removing it when withdrawn. Iodine, I believe, is the most effective agent to be sealed in to cause the disintegration or rusting of the steel point. It has been my experience, however, that this is a slow and uncertain process unless the point to be removed is very small. Sometimes, if there is no infection beyond the point, it may be sealed in (preferably I think with oxychloride cement) and the tooth remain a useful member indefinitely. I would advise you, if feasible, to have it X-rayed, it will show you just how much of a point is in there, and you can judge better just what you should attempt to do with it. Do you ever separate the roots of a molar, extracting the hopeless one and retaining the good one for an abutment?

Don't know that this will be of any possible service to you, but trust it may.—V. C. S.

*Question.*—Will you kindly advise me as to what I can do with the following case? Upper left central Logan crown with cast base—lateral dummy—cast inlay on lingual of Vital cuspid, with small first bicuspid dummy, all cast in one piece, including base for Logan crown abutment. Inlay for cuspid abutment, and backings for Steele facings for lateral and first bicuspid dummies. Bridge set last August, and on account of shrinkage was a little short drawing on central at time of setting, no soreness on percussion, but tooth (central) has an uncomfortable feeling at night or when patient lies down and at times for a short time when sitting up. When central was devitalized treatment was left in for several weeks, then tooth became sore and ached for three or four days when pulp was removed and tooth treated for several weeks. Canal filled and then tooth seemed to be all right for some time before bridge was put in.

Gums show inflammation over root of central.—G. H.

*ANSWER.*—It does not sound very good that central, though I would recommend painting the gum twice a day at first and later once a day for some time with tincture of iodine and tincture of aconite equal parts. If this does not give relief, you may have to remove the bridge and possibly central root also. The fault, of course, was at time of devitalization (treatments should never be left in more than a few days) and of making and setting bridge (bridge should always be cast, or made in whatever manner desired, in sections or parts which are finally assembled with solder, assuring a minimum amount of shrinkage).—V. C. S.



## THE PRESENCE OF AMEBÆ IN THE MOUTHS OF HEALTHY INDIVIDUALS\*

By L. T. LEWALD, M.D., NEW YORK

*Director of Roentgen Dept., St. Lukes Hospital. Former Instructor of Gross Pathology, New York University, N. Y. C.*

This is a preliminary report of investigations which had been carried on as to the occurrence of amebæ in the mouths of healthy individuals. The subject had been brought forward because there seemed to be a great deal of question as to the constancy of this organism in the mouth. It has been reported in pathological conditions in the mouth and upper respiratory tract. In Delafield and Prudden's Pathology it is stated that species of amebæ have been found parasitic in the human mouth, intestine, and bladder. Braun, in his book on animal parasites in man, which is probably the most complete work one can consult, states that amebæ gingivalis, buccalis, and dentalis have been reported in the mouth. Of these three species Braun thinks the last one may be disregarded as its discoverer has himself suggested the possibility of his having mistaken salivary corpuscles for amebæ. The other species have been found on the tartar of the teeth.

This study was taken up some time ago while in the tropics. The first examination shows amebæ which looked like amebæ coli. Some of these cases showed amebæ and some did not. Then began a systematic study of scrapings from the mouth for amebæ, and a considerable number of observations were made while still in the tropics. In a series of scrapings from the mouths of Filipinos, for instance, there were fifteen positive and four negative. These observations were carried on in the United States by using a warm stage so as to simulate tropical conditions, and he was convinced at once that *these amebæ could be demonstrated in the mouth almost constantly, no matter how much care was taken of the teeth*. In the first examination of 100 cases, positive results were obtained in 71. In going over some of the negative cases and making frequent examinations amebæ were found in four more. With repeated examinations it was felt they could be demonstrated in most, if not all, of the other cases.

The morphology of these organisms had not been worked out completely, and it was hoped to undertake some investigations in order to

\*From Proceedings of the New York Pathological Society, 1907.

demonstrate what the correct designation of this organism should be. It is considered probably to be identical with the gingivalis and buccalis, and it is suggested that one of these names be retained, or the organism called *Amebæ oralis hominis*, which would indicate *its constant presence in man*.

The technique was not very simple. If one merely took saliva from the mouth, or even tartar from the teeth, the organism would not be found. It was necessary to go a little deeper and scrape away the tartar and work a sterilized loop of platinum under the gum, bringing away a sort of translucent gelatinous material. This should be put at once on a slide on a warm stage. If the material is very thick a little saliva should be added, and the specimen then covered with a glass. The organism was from 10 to 20 micra in diameter. It was always possible to distinguish it on a warm stage by its motility. There could be no question of confusing it with epithelial cells or leucocytes which are commonly present in large numbers.

Persons were examined who came from all parts of the country and from abroad, and the constancy with which the organism had been found left no doubt in the writer's mind as to its presence in the *human mouth in health, equalling in this respect the presence, for instance, of the B. coli communis in the intestine*.

Active amebæ were exhibited under the microscope when this report was submitted.

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### THE RELATION BETWEEN CALCIUM METABOLISM AND DENTAL DISEASES

BY F. W. BRODERICK (BOURNEMOUTH) M.R.C.S., ENG.,  
L.R.C.P., LOND., L.D.S., ENG.

"The salts of calcium are necessary to life, and a correct balance in the metabolism of calcium is necessary for health.

Calcium is found in the body in two forms:

(1) Fixed in the tissues, helping to build up the framework of the body.

(2) A floating quantity of lime in a loose combination, easily ionizable, waiting to be utilized in the process of evolution to make good wear-and-tear, and to assist in all forms of repair.

When calcium absorption is deficient or elimination excessive, this floating calcium is first affected, and a low calcium index is the result.

Under certain circumstances, the fixed calcium is broken down and eliminated and the body's framework partially deprived of lime salts.



Experiments seem to show that the suprarenal, the pituitary and the thymus are calcium utilizers and that the reproductive organs are calcium eliminators. The thyroid is difficult to place exactly in this classification. In some cases it causes increased elimination and in others it increases conservation of calcium.

Probably the answer to the thyroid riddle is that the extract of this gland is apt under certain conditions to break down the fixed body calcium into this floating ionizable calcium; and when the body has an excess of the latter, it increases its elimination.

1. In *childhood* all the calcium obtainable is required for growth.

Should there be any lack of calcium, the result becomes apparent. In *extreme* cases, typical rickets appear; the teeth are late in erupting (for the cutting of the teeth is regulated by the utilization of calcium) and are poor in structure. In less extreme cases, the result is a poorly calcified tooth.

Excessive growth during illness and rest in bed, due to stimulation of the glands owing to extra work, as toxin eliminators; followed by calcium starvation of the body fluids, in consequence of a reaction, and insufficient secretion, commonly called convalescence. This period—childhood, is one of excessive caries.

2. In *middle age* this calcium balance is more stable, calcium being only wanted to make good wear-and-tear, we have the whole group of glands active, both assimilators and eliminators, and in health, but comparatively little caries.

3. In *Pregnancy and Lactation* considerable lime is required for the growing foetus and later, for milk formation. The ovaries are inactive; menstruation (which is a calcium drain) stops, as a rule, until the child is weaned, and the assimilators' work is unopposed. The balance, however, is more unstable, and in women who ordinarily are inclined to excessive elimination or insufficient absorption, trouble may ensue. This is a time when teeth decay with great rapidity.

There is also a considerable loss of calcium salts in the monthly discharges, and women are, therefore, more likely at this age to become calcium deficient than men are. There is more caries during middle life in women than in men, the author believes. The predominance of women over men among the dentist's patients cannot be all put down to vanity. Again, arterio-sclerosis and gout are uncommon in women before the menopause, which is also probably due to the loss of calcium salts in menstrual discharges.

(4) In *old age*, the loss of calcium balance is in the other direction; the eliminators—i.e., the reproductive glands—are not active, calcium is stored up in awkward places, the arteries degenerate and joint troubles



commence. Caries is practically non-existent, the teeth are of an extra hardness and of a darker color. This is the time when gums recede and pyorrhea is prevalent.

Professor Meyer has shown that the withdrawal of calcium from the body leads to an increased irritability of the autonomous and sympathetic nervous system. Glands controlled by the sympathetic system secrete more freely, and serious exudations into tissues are more likely to take place—i.e. chilblains. The administration of calcium does away with this hyper-irritability. The suprarenal is a calcium absorber and in insufficiency of these glands you will get a withdrawal of calcium from the body, and the sympathetic system is upset.

The predisposing cause of dental caries is a diminution of the calcium utilizing power of the body, due to a want of balance in the secretions of all the ductless gland group, brought about by any pathological condition causing an extra strain to be thrown upon them. Acute infectious fever in childhood, pregnancy in women, and any illness or run-down condition may be responsible.

The effects of internal secretions on tooth structure are the following:

- (1) Sufficient calcification before eruption.
- (2) Hypercalcification after eruption.
- (3) Prevention of caries by causing Nature's mouth wash to be sufficiently alkaline.
- (4) Arrest of decay by a hypercalcification of the dentine.
- (5) A tropic action which keeps the tooth substance in a healthy condition to withstand the various attacks of its many enemies.

"That caries is due to the solution of enamel by organic acids formed by the fermentation of carbohydrate food is the accepted theory." But the author adds "if the saliva is sufficient in alkalinity and quantity, it will neutralize the organic acids at the moment of formation."

The author asks, "If the diet and diet alone is the cause of tooth decay, why should certain teeth be picked out and others left, e. g. the six-year-old molars and lower fronts? Again, why do pregnant women's teeth decay while eating the same food as non-pregnant women? Why the rapid decay in childhood and youth? Why do the teeth of young women decay more rapidly than young men? Why is caries so excessive following illness?"

The author suggests, "All these cannot be accounted for by the diet theory alone."

If calcium metabolism is at fault, then caries is a preventable disease without any great number of washings or changes of diet.

Teeth cleaning is a cleanly habit, but we all see cases of the cleanest mouths and much caries, and often no caries in the dirtiest. We must look for a constitutional condition as our enemy, and not a local one.

The treatment the author believes is in the hands of the physician, but suggests it is better to rest and help the ductless glands rather than stimulate them, and believes that the reaction of the saliva will prove a useful guide as to treatment.

The body fluids, including saliva, the author believes, are in a state of calcium saturation, and these salts are precipitated in the mouth by the loss of carbonic acid gas. This calculus is laid down in the same way as calculi in other regions, and acts as a mechanical irritant, presses away the gum margins and lays the natural gum pockets open to pyogenic infection.

This condition prevails in middle and later middle life when calcium is not eliminated as freely as formerly, when lime is storing up in the joints and arteries, when patients suffer from gout and sclerotic diseases rather than tuberculosis.

Caries and pyorrhea are, to a great extent, antagonistic.

Again Dr. Van Noorden and Benjamin Moore have shown that when calcium salts are deposited in the body, the reaction of the body fluids are not increased acid—but, if anything, increased alkaline.

Dr. Moore states "That pathological lime salt deposition is induced by defective oxidations in a medium more alkaline than normal."

The author therefore concludes "That gland therapy holds out here a hope of relief—as in dental caries, by helping to remove this increased quantity of lime from the body" and closes by quoting from the Introduction to the Hormone number of *The Prescriber*, of Edinburgh, for April, 1913, by Dr. Leonard Williams:

"Yesterday was the day of the pathologist, more especially of the bacteriologist. The day before yesterday witnessed the triumphal progress of surgery. Physiology and medicine—all wrung in the withers and quite crestfallen—contented themselves perforce with the crumbs that fell from the rich microbic tables of these others. But the whirligig of time brings its revenges. To-day, to-morrow, and the day after, are preordained to the physiologist, the physician, and the therapist. Their hour has come through the agency of the internal secretory glands, which already unfold before the astonished view of the seeing eyes a land of promise beside which the vast territories conquered by Lister and Pasteur are designed to pale into honorable insignificance. The ductless glands and their hormones come to us as peaceful conquerors who brook no denial; they brighten our darkness and show us miracles. In studying them and endeavoring to unravel their intricate mysteries one seems ever and anon to be on the trail of the 'great secret,' and in danger of losing one's mental perspective."—*The British Dental Journal*.

## AN EPITÔME OF CURRENT DENTAL AND MEDICAL LITERATURE

[*The Dental Review*, April, 1915]

The Problem of Dentistry in Japan. By Alfred Owre.

\*Etiological Relation of Focal Infection to Remove Diseases. By Robt. B. Preble, M.D.

\*The Surgical Treatment of Pulp Canals as a Prevention of Systemic Disturbances. By Elmer S. Best.

The Latest Practical Attachment. By H. F. Merck.

Enamel Caries and Immunity. By C. F. Bödecker.

Case of Orthodontia by Photographs. By Gordon White.

Hydrolysis of Triacetylglucose by Enzymes. By J. E. Hinkins.

Certain Phases of Pulp Canal Treatment. By C. N. Johnson.

### ETIOLOGICAL RELATION OF FOCAL INFECTION TO REMOVE DISEASES

BY ROBT. B. PREBLE, M.D.

The extreme of "the current mode to refer all sorts of ills to a focal infection" is criticised by the essayist. He calls attention to the fact that "the idea that a focal infection can cause remote disturbances is an old idea," that it antedates bacteriology.

The numerous remote disturbances are stated which may follow common focal infections, i.e., nephritis, rheumatism, endocarditis, chorea or appendicitis following tonsilitis. These effects may be produced by the micro-organisms themselves or the toxins which they secrete.

A list is given of the remote effects following a local infection, with or without abscess formation; multiple arthritis, myocarditis, pericarditis, acute nephritis, appendicitis, multiple neuritis, chorea, endocarditis. There is, indeed, no organ in which localization remote from the infection may not occur, and one could easily extend this list to include osteomyelitis, hepatitis, cholecystitis, gastric ulcer, brain abscess, etc., etc.

Diverse as these conditions are, they have one common characteristic, i. e., they are acute in their onset, although any of them may be chronic in their course, and some of them practically never heal without having permanent effects.

### THE SURGICAL TREATMENT OF PULP CANALS AS A PREVENTION OF SYSTEMIC DISTURBANCES

BY ELMER S. BEST, D.D.S., MINNEAPOLIS, MINN.

We are being held accountable for the somewhat disastrous results which have followed the operation known as "pulp devitalization." These results, at least in the majority of cases are not discovered by the general practitioner, unless he makes or has made radiographic examinations. But they are being brought to the light of day by the radio-

grapher at the request sometimes of the dentist but more frequently by the internist in his routine examination.

We are not justified in saying that after we have removed the pulp of a tooth and filled the pulp canals simply because we do not have the acute symptoms or the appearance of a sinus, that the patient is having no trouble of which that particular tooth may be the cause.

In a recent examination of 169 cases submitted for radiographic examination of pulp canal operations nine were apparently well filled, from a mechanical standpoint, 160 imperfectly filled. Of the latter class 128 showed apical bone absorption, and 32 did not.

We may easily have a mechanically perfect root filling and yet have a large area of destroyed bone in the apical region. It may arise from any one of the following causes: Previous to the filling of the canal there may have been an abscess arising from this particular tooth, a curettement may have been performed, the bone may have been destroyed from chemical irritation as from arsenic, or in the removal of a vital pulp, infection may have been introduced.

In some were found devitalized and semi-devitalized pulp-tissue, gutta-percha cones, wires, and root canal pastes.

The dentist is under a great obligation to physicians who have shown the vital relation between septic roots and systemic disturbances.

Ulrich, in an examination of one thousand cases of pulpless teeth found seventy-one per cent. had abscesses.

The essayist is convinced that the incubating of bacteria in the human system by leaving non-vital pulp tissue in the root canals and then placing the mischief making bacteria in the canals in apposition with such tissue by allowing the saliva to enter the canals, carrying with it its army of bacteria, or by the use of dirty chip blowers, unsterilized pulp canal instruments or unclean cotton, is a practice which none should or will tolerate.

*[Journal of the National Dental Association, March, 1915]*

\*What Every Dentist Should Know About Surgical Lesions of, and in the Region of, the Upper and Lower Jaw. By Joseph Colt Bloodgood, M. D.  
Oral Hygiene. By C. H. Oakman, D.D.S., M.D.  
The Research Department.

\*Some Practical Uses in Dental Practice for Tungsten and Molybdenum. By Weston A. Price, D.D.S., M.S., and Frank A. Fahrenwald, E.M., M.S.  
Militia Dental Surgeons. By S. D. Boak, M.D., D.D.S.

WHAT EVERY DENTIST SHOULD KNOW ABOUT SURGICAL LESIONS OF, AND IN THE REGION OF, THE UPPER AND LOWER JAW

BY JOSEPH COLT BLOODGOOD, M.D.

The dentist has a rare opportunity to observe the beginnings of certain lesions which may be, or may develop into, malignant tumors, and

other less malignant, or benign, lesions, the earlier recognition of which will accomplish a cure of the disease with less mutilation and discomfort to the individuals than at a later stage.

Cancer of the tongue begins in the most insignificant local lesion and then grows rapidly to a lesion which requires not only the most expert, but the most extensive surgical intervention. Recognized earlier, the treatment is not only less dangerous and not at all mutilating, but more certain of a permanent cure.

"Any change in the surface of the mucous membrane should be regarded as having potential possibilities as a focus of cancer, and should have the teeth in that region carefully cleansed and smoothed of any rough or ragged surface."

"I have never observed cancer of the gum about the teeth unless there was a definite history of leucoplakia, or bad teeth, usually a neglected ulcerating tooth, or a sinus, a non-extracted root. Any sinus in the region of the teeth is a very potent precancerous lesion. All such sinuses should be made to heal at once."

Pain in the region of the teeth may be the first sign of a benign or malignant lesion beneath the mucous membrane in the region of the jaws.

The most important instrument of precision for an examination when there is obscure pain without palpable swelling is the X-ray. This will show a nonerupted tooth, expansion of the bone of the upper or lower jaw, bone formation, and bone destruction—all conditions which rarely, if ever, depend upon lesions of the erupted teeth. Unfortunately to-day, the usual practise in both dentistry and medicine, is to treat the patient for symptoms before a thorough examination in search for the etiological factors of such symptoms.

My experience teaches me that dentists often miss a valuable opportunity for the earlier recognition of serious diseases by not making a careful examination when the only symptom is pain referred to the teeth.

Swelling of the alveolar border, gum boil, cases of ossifying periostitis alveolus, epulis adamantine epithelioma periostial sarcoma, even early carcinoma in this region have had dental work first and frequently incisions into the non-infected lesion.

"In carcinoma this is a very dangerous procedure, and often the disease is disseminated and made inoperable by such a practice."

#### SOME PRACTICAL USES IN DENTAL PRACTICE FOR TUNGSTEN AND MOLYBDENUM

BY WESTON A. PRICE, D.D.S., M.S., AND FRANK A. FAHRENWALD, E.M., M.S.

Tungsten is twice as elastic as steel.

Tungsten is about twice the melting point of platinum.

Tungsten is six times as stiff as 30 per cent. of iridium with platinum. Does not anneal or lose its stiffness or elasticity when heated to the melting point of gold.

Tungsten has a hardness so great that a specially prepared phonographic needle point made from it will outwear two hundred hardened steel points; will draw into a finer wire than any known metal, has a tensile strength thirty times that of gold and ten times that of iron; is not affected by ordinary acids or alkalies, except hydrogen dioxide in which it is soluble. Its melting point is over 3,000 degrees C. or 5,400 degrees F.

Molybdenum has a melting point a little lower than tungsten, namely, 2,500 degrees C. (Note.—Gold is 1063 degrees C. and platinum 175 degrees C.) and it has a tensile strength five and one half times that of iron. Molybdenum has many properties similar to tungsten, its chief difference being its lack of elasticity, which makes it particularly desirable for those forms of orthodontic appliances where we require a very tough slightly elastic piece. When hard drawn it is not annealed at temperatures up to the melting point of gold and its elastic content is a little greater than annealed gold clasp metal. When once annealed at high temperatures it does not recover its elasticity originally put in by hard drawing but has enough elasticity for certain uses in orthodontia work.

This metal, like the tungsten, will be furnished with gold or gold and palladium coating, the latter having the color of platinum. The cost of molybdenum is about two thirds that of tungsten.

The present price for gold, or gold and palladium coated tungsten is about one-fifth that of platinum or one sixth that of iridio-platinum. The present price of molybdenum, gold or gold and palladium coated, is about one eighth that of platinum or one ninth that of iridio-platinum. Since the strength of tungsten is approximately six to seven times that of iridio-platinum, we can reduce the size to about one half by weight and still have a larger factor of safety. This reduces the relative cost of tungsten to about one twelfth that of iridio-platinum for a given case.

*[Items of Interest, April, 1915]*

The Treatment of Pyorrhea Alveolaris with Succinimide of Mercury. By Geo. H. Reed, D. S., A.A.D., Surg., U. S. Navy.

Dedication of the Evans Dental Institute.

The Evolution of Dentistry. Address of Edward C. Kirk, D.D.S., Sc.D., LL.D., Dean of the School of Dentistry.

Address by Mr. J. Howard Mummery, M.R.C.S., L.D.S., of London, England.

Address by William Simon, of the Baltimore College of Dental Surgery.

The Late Thomas W. Evans.

\*Dentistry in Public Institutions. By Frederick A. Keyes, D.D.S.

## DENTISTRY IN PUBLIC INSTITUTIONS

BY FREDERICK A. KEYES, D.D.S.

The 35th Annual Report of the Massachusetts State Board of Charities, a full report of all work done in all state incorporated charitable institutions, contains but two references to dental work! One states that "the Hampden School (a reform school for boys) has confined its dental care largely to the extraction of teeth"; On the same page it states that "the Middlesex School has a well-equipped dental laboratory, which employs a dentist one day a week."

In the Report of the State Board of Insanity, there was not found a single reference to Dentistry. The report of the Board of Prison Commissions contains but a plea for this sort of work by Dr. Edith R. Spaulding of the women's prison at Sherborn, Mass., who states: "One of the most important defects which presents itself in the physical examination of the women is the exceedingly poor condition of the teeth. Besides the extreme physical pain caused by such defects it will be remembered that poor teeth are a factor in many digestive disturbances, and the cause of much ill health. In the examination of sixty-four consecutive cases it was found that fifty-two were in need of dental work. Each individual had an average of four carious teeth; two thirds of the carious teeth needed extraction, while one third needed filling. The conditions caused by poor teeth alone form a large part of our medical work at present, and cannot adequately be corrected without the employment of a dentist in the institutions."

In the Lying-In Hospitals and General Hospitals, the Tuberculosis Hospitals, and the Hospitals for the Insane, Industrial Schools and Asylums, there is either an absolute lack of any dental attention given to the inmates or the attention is so inadequate as to be appalling.

The remedy suggested by the essayist is "legislation which shall insure the appointment of a dentist to each institution, and of a committee whose duty it shall be to see that systematic dentistry is practised therein. These dentists should receive sufficient monetary compensation to attract the ablest men of the profession to this most interesting field of work. Until this is done all efforts by individuals in various institutions will be comparatively futile and useless. At St. Vincent's Orphan Asylum, Boston, a private institution, which houses 200 children, systematic dentistry was begun in 1910 as an experiment. Before this there was a yearly average of 103 cases of infectious diseases. Since that time there have been only five cases in all four years and not one case in the last year."

The figures tell their own story and need no further word of mine.



[*The Dental Summary*, April, 1915]

- A Removable Bridge Attachment. By E. Ballard Lodge.  
 Silicate Cement Restoration. By I. H. Harrington.  
 Relation of the Dentist to the Results of Mouth Infections. By Frederick B. Kremer.  
 A New Treatment for Pyorrhea Alveolaris. By James Vincent Sparks.  
 Fracture of the Mandible. By J. P. Wahle.  
 Cavity Preparation with Conductive Anesthesia. By R. M. Hubbard.  
 Higher Professional Standards. By G. L. Powers.  
 Uric Acid and its Relation to Pyorrhea. By J. L. Mewborn.  
 Cavity Preparation. By Thos. P. Hinman.  
 The Business Saving Side of Dentistry. By A. F. Linscott.  
 A Contribution to the Tooth in its Relation to Forensic Medicine. By Hermann Prinz.  
 Novocain, the Ideal Anesthetic. By J. Crimen Zeidler.  
 Oral Prophylaxis the Guardian of Health. By Jules J. Sarrazin.

[*The Dental Cosmos*, April, 1915]

- Dental and Facial Prosthesis in the Philippines. By Louis Ottofy, D.D.S.  
 Tube Teeth and Porcelain Rods: Their Uses and Adaptations in Prosthetic Dentistry. (XII.)  
 By John Girdwood, D.D.S., L.D.S.  
 \*Simplified Surgical Technique Employed in Root Resections for the Radical Cure of Chronic Dento-alveolar Abscess. By F. K. Ream, M.D., D.D.S.  
 Impression Taking by the Greene Method. By D. D. Atkinson, D.D.S.  
 Deep Muscular Injections of Succinimid of Mercury in Pyorrhea Alveolaris. By Paul Gardiner White, D.M.D.  
 The X-Ray as an Aid in Diagnosis. By Gillespie Enloe, D.D.S.  
 The National Narcotic (Harrison) Law as It Affects the Dental Practitioner. By Hermann Prinz, A.M., M.D., D.D.S.  
 \*The Chemistry of Dental Amalgam Alloys, with Some Considerations Concerning Their Physical Properties. By Wm. W. Atkinson.  
 The Problem of Dental Education. By Eugene S. Talbot, M.S., D.D.S., M.D., LL.D.  
 The Recognition of Systemic Disturbance in the Treatment of Oral Lesions. By B. H. Teague, D.D.S.  
 President's Address. (National Dental Association—Southern Branch.) By W. A. Dean, D.D.S.  
 Preventive Medicine in Dentistry. By J. G. Reid, D.D.S.  
 A Few Thoughts on Oral Hygiene and Surgery. By N. G. Slaughter, D.D.S.

SIMPLIFIED SURGICAL TECHNIQUE EMPLOYED IN ROOT RESECTIONS FOR THE RADICAL CURE OF CHRONIC DENTO-ALVEOLAR ABSCESS

By F. K. REAM, M.D., D.D.S.

The history is given of the operation of root resection. The author protests against the ruthless extraction of abscessed teeth, savable by surgical interference. The dentist is "derelict in his duty toward the welfare of his patients when he neglects to take or neglects to advise a radiogram for the better study of roots and root canal formation." The diseases are named which alveolar abscesses may cause. Because of these, the treating of alveolar abscess should not be considered lightly.

While it may be possible to accomplish much good without the roentgenogram, such purely guesswork practice resembles too much a ship at

sea without a rudder. The operator may be greatly misled in his judgment as to the necrosed area, diverging or crooked roots, etc.

Some of the most frequent indications for root resection are (1) imperfect root-canal fillings; (2) perforations through crooked roots; (3) traumatic injuries and fractures; (4) broken broach ends, and (5) excess of gutta-percha or other root-canal filling protruding through the apical foramen. In short, any pathologic condition that involves the apical region in teeth which show sufficient rigidity to withstand surgical treatment is operable.

#### THE CHEMISTRY OF DENTAL AMALGAM ALLOYS, WITH SOME CONSIDERATIONS CONCERNING THEIR PHYSICAL PROPERTIES

By WM. W. ATKINSON, D.D.S., PHILADELPHIA, PA.

Having considered dental amalgam alloys from their chemical and physical constitution, corrosion and volume change, the author arrives at the following conclusion: that in order to secure the property of expansion when it is amalgamated, we must produce an alloy of condensed volume. This condensation must be accentuated by quenching in a cold ingot mold during the casting of the melted alloy, and the filings made from the ingot must be tempered by annealing in order that the subsequent expansion of the amalgam shall not be in excess of the requirements. Heterogeneous alloys, being in their nature conglomerates, we may expect to fail in respect to this requirement and eutectics are also to be rejected—for they, as a rule, expand in cooling. Chemical compounds, then, by reason of their close organization and the consequent condensation in cooling and the fact that they are, if correctly melted, homogeneous, are the alloys best adapted for the development of this property.

2. The requirement of prompt "setting" is best met by a chemical compound of metals, for chemical reactions are invariably more rapid and certain than those of merely physical combination.

3. The requirements of rigidity and strength are best met by a chemical compound—for such compounds, as a rule, are harder than any of their constituents, and they possess greater compressive strength, the latter property being of the highest importance in an amalgam filling.

4. The requirement of resistance to corrosion is best met by a chemical compound of metals, for, such compounds are more resistant to electrolytic decomposition than are either solid solutions, eutectics, or heterogeneous alloys.

5. The quality of uniformity—that is, the continuous reproduction of given properties—is best met by a chemical compound of metals, for, as a result of the fixed proportions of their components, their properties are constant.

[*The Pacific Dental Gazette*, March, 1915]

- The Technic and Balancing of Local Anesthetics. By Novitzky.  
 \*Relationship of Constitutional Disease to Local Oral Disturbances. By Harry P. Carlton.  
 A Broader Professionalism. By G. Maurice Crow.  
 The Perennial Intruders.  
 Phlegmons and Abscesses of the Neck. By Professor Mauclair.  
 Clinical Cases. By E. S. Fischer.  
 Dental Cyst of the Maxilla. By Drs. Chompret and Morel.  
 Questions and Answers, 304 to 322 inclusive, on Subjects Pertaining to the Dental Curriculum. By Julio Endelman.  
 Chemistry of Oxyphosphates. By W. S. Medell.  
 The Gold Inlay. By J. V. Conzett.  
 Operative Dentistry as Taught by G. V. Black. By W. R. Clack.  
 General Practice and Specialism. By William B. Dunning.

RELATIONSHIP OF CONSTITUTIONAL DISEASE TO LOCAL ORAL  
DISTURBANCES

BY HARRY P. CARLTON, D.D.S., OAKLAND, CAL.

The author considers "pyorrhea alveolaris a second stage in a previous inflammatory condition."

Inflammation may occur at any point from the gingival border to the tooth apex, and the term interstitial gingivitis includes the involvement of the gums, peridental membrane and alveolar process. These structures being transitory and of small resistance, become smaller during the natural growth, and are the first tissues to undergo change in disease conditions. The alveolar process only awaits an irritant to set up a slow form of inflammation to cause absorption. That it is the first to respond to toxins is shown in the metal poisons or where medicine is given until the gums are "touched."

Regardless of cause, whether constitutional or local, or both, the inflammation produced is progressive, and does not cease if not checked until the exfoliation of the teeth by the absorption of the alveolar process, although treatment and changes in systemic conditions may retard the progress for a limited time.

"The constitutional states" which bring about tissue alterations through the blood supply, in the gums, the peridental membrane, and the alveolus, are (1) Auto-intoxication, (2) Toxic action of the acute and chronic infectious diseases, and of drugs and metals.

[*International Journal of Orthodontia*, March, 1915]

- The Technique of Accurate Model Construction. By Samuel J. Lewis, D.D.S., Kalamazoo Mich.  
 A Short Note on Classification. By J. Sim Wallace, D.Sc., M.D., C.M., L.D.S., London, England.  
 Classification of Malocclusion. By Martin Dewey, D.D.S., M.D., Kansas City, Mo.

[*Oral Health*, March, 1915]

Photograph, Captain Chas. A. Corrigan, Toronto. Frontispiece.  
 Dental Amalgam Alloys. By Thomas Cowling, D.D.S., Toronto.  
 The Anesthetization and Devitalization of Pulp, Their Removal and Subsequent Treatment. By J. R. Doyle, D.D.S., Port Arthur, Ont.  
 Post Graduate Course in Modern Dental Prosthetics.  
 Operative Dentistry. By Dr. A. H. Hipple, Omaha, Nebr.  
 The Thomas W. Evans Museum and Dental Institute.  
 Oral Hygiene Workers Object to United States War Tax.  
 New Piece of Apparatus, Department of Prosthetics, R.C.D.S.

[*New York Medical Journal*, March 6th, 1915]

#### THE TRANSMISSION OF MEASLES

The discontinuance of fumigation after contagious diseases by the New York Board of Health as a measure in keeping with the most modern advances on the subject, helps to recall to mind that there has been a radical change in the ideas on the mode of transmission of the contagious diseases. This is particularly the case with measles. This disease was always considered air borne, and it was believed that contact was not necessary. As early as 1852, Meyer showed that this disease was transmitted through the agency of the *nasal and the buccal secretions*. This has lately received corroboration by Anderson and Goldberger, of the hygienic laboratory. The infection is a droplet infection from these secretions and is confined to the immediate vicinity of the patient—within the droplet radius. But fomites—clothing, linens, and other material from the patient—may carry the contagion.

#### VINCENTS' ANGINA

By MARTIN J. SYNNOTT, A.M., M.D.

Attention is directed to the importance of making a bacteriological examination in diagnoses. In the case reported, the dentist diagnosed the trouble as a bad case of pyorrhea. Treatment for this ailment afforded no relief. The author made smears from necrotic tissue around the socket of a recently extracted tooth and from the gum margins of several molars. The microscope revealed the typical micro-organisms of Vincents' Angina—a fusiform bacillus and a spirillum.

Direct applications of undiluted tincture of chloride of iron daily produced a complete recovery in a fortnight.

The local treatment includes such remedies as methylene blue, tincture of iodine, Lugol's solution, Monsell's solution, argyrol, nitrate of silver, and hydrogen peroxide. Orthoform lozenges relieve the dysphagia.

For severe cases, with deep ulceration into the fauces or larynx, and in obstinate cases which tend to become chronic, good results have been

obtained from salvarsan intravenously, and also applied locally triturated with glycerin. As Vincent's angina appears to be a spirillum disease the administration of salvarsan seems to be a logical procedure.

[*Journal of American Medical Association*, April 3, 1915]

[*Deutsche Zeitschrift für Chirurgie, Leipzig*, January, CXXXII, Nos. 5-6]

#### LOCAL VERSUS GENERAL ANESTHESIA

Holzwarth reports that of the last 1,438 major operations at Budapest, in only 71 was the anesthetic given by inhalation; the others were done under direct local anesthesia or by blocking the nerve. This includes the entire material in Dollinger's service; Braun's technic was usually followed. A curtain on a small frame shuts off the patient's view of all but the "moral anesthetist" whose task it is to divert the patient's attention. The general condition after the operation is so far superior to that after general inhalation anesthesia, that this alone, he reiterates, would turn the scale in favor of the local anesthesia or nerve blocking. Their technic is so harmless and they have so many points of advantage over the inhalation method that he urges more general use of them and extension of their sphere.

[*Journal of American Medical Association*, April 10, 1915]

#### TO STERILIZE INSTRUMENTS AND KEEP THEM READY FOR USE

Gerson, for a period of one minute, wipes off the blade with cotton dipped in tincture of soap, and then repeats the procedure with fresh cotton. Each blade is then wrapped separately in fresh cotton dipped in the tincture of soap, and the instrument is laid away ready for use at once or even after an interval of several weeks. This method has stood the severest tests, he says, and proved entirely satisfactory in fifteen years' experience with it.

[*Medical Record*, March 13, 1915]

#### TREATMENT OF PYORRHOEA ALVEOLARIS AND ITS SECONDARY SYSTEMIC INFECTIONS BY DEEP MUSCULAR INJECTIONS OF MERCURY

By B. L. WRIGHT AND P. G. WHITE

Among secondary infections are malignant endocarditis, chronic arthritis, myositis, Hodgkin's disease, various stomach disorders, neuritis and other diseases of the nervous system. The cure of pyorrhea is of vital importance, to prevent its local ravages and systemic invasion. No one micro-organism can be regarded as the specific cause; the streptococcus-pneumococcus group apparently comprises the important pathogenic

bacteria. Since mercury is the chemical affinity of vegetable parasites when properly injected into the infected host, it will cure the specific disease. The results obtained have been uniformly and brilliantly successful; so far, twenty-eight cases have been treated; all have been completely cured in remarkably short periods of time. Of these, nine, or 32.1 per cent., had systemic infections probably secondary to the pyorrhea, six being chronic arthritis, one chronic gastritis, one chronic bilateral facial neuralgia, and one chronic laryngitis; two other patients had gonorrheal arthritis. The local treatment embraces the following: Careful expression of pus from the pockets, thorough removal of all calcareous deposits and tartar, extraction of hopeless teeth and roots, polishing of tooth structure, application to the margin of the gums, every other day, of equal parts of chloroform and the tinctures of iodine and aconite. Mercuric succinimide is the preparation employed for the muscular injections, and these should be commenced with the local treatment and repeated every seventh day. The initial dose for a man is half a grain; if the patient is improving, each succeeding dose may be slightly reduced. In women the dose should be from one fifth to two fifths less. The coöperation of the physician and dentist is essential.

[*Medical Record*, March 27, 1915]

[*Münchener Medizinische Wochenschrift*, February 16, 1915]

PLAUT-VINCENT'S PHARYNGITIS AND STOMATITIS

By F. REICHE

The diagnosis is made on the finding of the organism with the negative finding of the diphtheria bacillus. In a series of about 4,000 cases of angina, this form was observed 139 times. The history of a case is given in which the constitutional symptoms were very severe, the patient complaining mostly of violent headache which did not respond to pyramidon or the bromides. The fever curve, the presence of a leucopenia and an enlarged spleen, and the paralysis of the abducens nerve made the differential diagnosis between this condition and typhoid on the one hand and tuberculous meningitis on the other hand quite difficult. The blood, however, always showed an eosinophilia of over six per cent., and this was decidedly against the diagnosis of typhoid. Ulceration of the mouth was a prominent symptom and the resulting scars gave the appearance of a luetic affection. The secretion from the ulcers was negative for syphilis, as was also the Wassermann and the examination of the cerebrospinal fluid. Leucopenia is quite rare in this condition, the blood picture usually showing a normal number of leucocytes or a leucocytosis. Unilateral abducens paralysis occurring as a complication of this disease had never

been reported before. It occurred on the twenty-sixth day of the disease and disappeared after three and a half weeks. A careful search was made at the time for diphtheria bacilli, but they could not be demonstrated. The history of another case which presented the picture of a grave pernicious anemia complicating this form of angina is given. The patient had shown a decided improvement up to the last two weeks, but died as a result of cardiac weakness. Of interest in this case was the youth of the patient, eleven years. Whether the anemia bears a relationship to this form of angina has not been definitely determined. Some of the fatalities reported by other authors show a blood picture similar to that of pernicious anemia. The months of the year in which this form of angina is most frequent are July, August, and September.

[*Medical Record*, April 3, 1915]

[*The Lancet*, March 6, 1915]

#### THE OPERATIVE TREATMENT OF CLEFT PALATE

H. Blakeway discusses the relative merits of the operation of "median suture" and the "turn-over flap" operation. The former as now performed differs in only two essentials from Langenbeck's practice—it is performed at a much earlier age and almost always with the aid of a general anesthetic. The author reviews the evidence concerning the claims put forward on behalf of the flap operation. The evidence is remarkably little. The statement that the operation is life-saving has not been proved. That because of the overlapping of flaps and the absence of tension union is more easily secured than by the operation of median suture is suggested by Goyder's series of cases, but the series is a small one, and the details given are in several respects meager. The suggestion that the worst cases of cleft palate can only be closed by a flap operation in early infancy is difficult of decision. Finally, the expectation that on account of the early age at which the operation can be done the speech will be much better than in cases where operation has been deferred to a later date has not yet been realized.

[*British Dental Journal*, April 1, 1915]

The Etiology of Dental Caries. By H. P. Pickerill, M.D., M.D.S., L.D.S.Eng.

Faulty Orthodontic Treatment as a Cause of Rarefying Osteitis. By Ernest Sturridge, L.D.S.Eng.

Teeth Anecdota. C. Edgar Thomas.

Presidential Inaugural Address. By Thomas Dykes, L.D.S.Glas.

"Emetin": A Twofold Specific.

Some Statistics from "The Operative Treatment of Cleft Palate".

"The Causation of Dental Decay",



[*British Medical Journal*, March 13, 1915]

ORAL SEPSIS IN RELATION TO GENERAL DISEASE

By H. L. McKISACK

This condition is sometimes tolerated by the patient for many years with little apparent injury. It is always a possible source of danger. It may give rise to disease in the vicinity of the mouth; disease in situations which come directly in contact with the unhealthy secretions of the mouth, such as the stomach and the intestines; disease in distant parts of the body not in direct communication with the morbid secretion, and a state of ill health and lowered vitality without obvious involvement of any organ. It may thus be said to aid and abet disease arising from some other source. It is commonly the result of imperfectly cleansed teeth. It does not necessarily involve the extraction of teeth.


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[*Archives of Internal Medicine*, January 15th, 1915]

THE STREPTOCOCCUS VIRIDANS IN INFECTIONS OF THE UPPER  
RESPIRATORY TRACT

By DR. RUSSEL L. CECIL, NEW YORK

From a study of 89 cases of infections of the upper respiratory tract he found the *S. viridans* to be the predominant organism in 50 cases, or 56.2 per cent. In general these infections were characterized by a mild course and a tendency to chronicity with frequent recurrences, which he attributes to the short duration of the acquired immunity. These infections of the upper respiratory tract due to *S. viridans*, especially those of the tonsils, sinuses, and the tooth sockets, are frequently associated with endocarditis and arthritis, and he is of opinion that there is a good deal of evidence that the latter conditions are secondary to the former. He has found autogenous vaccines to be of considerable value in cases where the structural changes are not too advanced, but he takes care to point out that in cases of bronchitis with emphysema or bronchiectasis, old sinus infections with thickened walls, and advanced pyorrhoea with retraction of the gums, vaccines can bestow only limited benefits. He believes that vaccines are more especially valuable in the prevention of recurrences, and suggests that prophylactic vaccination against infections of the upper respiratory tract deserves more attention. He states that his own experience indicates that most persons who suffer from frequent colds are susceptible to one particular organism with which they are constantly being reinfected.



# BOOK REVIEWS

A TEXT-BOOK OF DENTAL PATHOLOGY AND THERAPEUTICS. Based on the Original of HENRY H. BURCHARD, M.D., D.D.S. Rewritten by OTTO E. INGLIS, D.D.S., Professor of Dental Pathology and Therapeutics in the Philadelphia Dental College. Fifth Edition, thoroughly revised. Octavo, 807 pages, with 708 Engravings and a Colored Plate. Cloth, \$5.00, *net*. Lea & Febiger, Philadelphia and New York, 1915.

The repeated editions of this book is a foreword for this—the fifth. It is given to the profession at a time that is ripe for its full appreciation.

Dr. Inglis has devoted much time and pains to a very full revision of the entire volume and has given the recent advances in Dental Pathology and Therapeutics. These two subjects have been given quite extended consideration. This will make the volume welcome in the colleges where the study of pathology is now being given much prominence.

The suggestions in regard to local anesthesia and to methods of obtaining analgesia are based on the recent advances in the fields of operative procedure, preferred instruments and general therapeutic measures.

An extensive list of dental obtundents with indications for their employment is presented. The subject of Pyorrhea Alveolaris and its causes are given in detail and the latest information on this disease is quite extensively discussed.

“The sections on bone infections, associated with dental lesions, on X-ray and vaccine therapy, on infections and on sterilization are distinctly up to date in tone and in the information presented.” This is peculiarly useful to the practitioner because of the care with which the minutiae of technique are considered.

The standing which has been generally accorded this work as a text book for the student and the safest, most comprehensive guide and reference work for the dental practitioner, will be strengthened by the careful and discriminating work of the author in this revision.

The chapters dealing with the impaction of teeth and with the conditions which call for the employment of a special surgical operator are of special note. The section devoted to pharmacology has been greatly enlarged in scope and rendered more useful by a very complete index of the drugs and remedial measures referred to.

The presswork and illustrations are of the best, as is usual with these publishers. The volume contains an excellent index.

**THE PRINCIPLES AND PRACTICE OF TOOTH EXTRACTION AND LOCAL ANESTHESIA OF THE MAXILLÆ.** By WILLIAM J. LEDERER, D.D.S., Dental Consultant to the German Hospital in the City of New York. Illustrated with 120 Textual Figures and 8 Figures on 4 plates. Cloth, price \$3.00. The Rebman Company, New York, N. Y., 1915.

We have received from the press of the Rebman Company the above volume which the author calls "A little volume"—and in point of size it is not large—but we are pleased to say that for information contained, it is large, embracing almost, if not quite all the steps necessary for satisfactory tooth extraction.

The book is divided into two parts. Part I. The Principles and Practice of Tooth Extraction. This is again subdivided into fourteen chapters. I and II are devoted to sterilization, the care of the operator's hands, and general asepsis regarding instruments. Chapter III is short, but well worth reading; it speaks of the attitude of the operator toward his patient. Chapter VIII treats of the classification of cases. Illustrations of the various types of extraction are given diagrammatically. Chapter XIII contains the best advice and directions for post operative treatment.

In Part II we have Anesthesia—General—Local—Conductive—Regional. We can offer nothing better in order to show the scope of this valuable book than give the headings of the different chapters:

- Chapter I. Anesthesia;
- Chapter II. Solutions for Local Anesthesia: The Solvent Medium;
- Chapter III. The Armamentarium;
- Chapter IV. Cocaine, Novocain, Adrenalin;
- Chapter V. The Technique of Local (Infiltration) Anesthesia;
- Chapter VI. Anatomical Considerations;
- Chapter VII. The technique of Conductive Anesthesia;
- Chapter VIII. Indications and Contraindications for Local and Conductive (Regional) Anesthesia;
- Chapter IX. Inhalation Anesthesia versus Regional Anesthesia;
- Chapter X. Shock in Oral Surgery;
- Chapter XI. Records of Conductive Anesthesias in Oral Surgery—Records of Conductive Anesthesias in Operative Dentistry;
- Chapter XII. Useful Formulæ and Prescriptions;
- Chapter XIII. Poisons and Their Antidotes;
- Chapter XIV. The Treatment of Emergencies.

The pages containing records of cases of Conductive Anesthesia are of very unusual interest. Evidently much care and time have been spent upon these records. The author is to be congratulated upon producing such a practical book on extraction.

## SOCIETY NOTES

## ARKANSAS.

The Arkansas State Dental Association will hold its annual meeting at the Hotel Marion, Little Rock, May 13-15, 1915.—WM. B. DORMON, Nashville, Arkansas, *Secretary*.

## CALIFORNIA.

The next meeting of the Board of Dental Examiners of California for the purpose of examining applicants for a license to practise dentistry will be held in San Francisco beginning on June 4, 1915. This examination will be followed by one to be held in the City of Los Angeles beginning on June 18, 1915.—C. A. HERRICK, 133 Geary Street, San Francisco, Cal., *Secretary*.

## ILLINOIS.

The Illinois State Board of Dental Examiners will hold its next meeting at the Northwestern University Dental School, Chicago, June 10, 1915.—O. H. SEIFERT, Springfield, Ill., *Secretary*.

## INDIANA.

The next meeting of the Indiana State Board of Dental Examiners will be held at the State House, Indianapolis, commencing June 14th, and continuing six days. For application blanks and full particulars address FRED J. PROW, Bloomington, Indiana, *Secretary*.

## IOWA.

The next meeting of the Iowa State Board of Dental Examiners for the examination of candidates for licenses will be held at Iowa City, Iowa, commencing Monday, June 7, 1915 at 9 A. M.—J. A. WEST, 417 Utica Bldg., Des Moines, Iowa, *Secretary*.

## NEBRASKA.

The 48th annual meeting of the Nebraska State Dental Society will be held at Omaha, Nebr., May 18-20, 1915.—H. J. PORTER, Cambridge, Nebr., *Secretary*.

## NEW HAMPSHIRE.

The next meeting of the New Hampshire Dental Society will be held at the New Hotel, Weirs, N. H., June 22-24, 1915.—C. S. COPELAND, *President*; L. I. MOULTON, *Secretary*.

## NEW JERSEY.

The State Board of Registration and Examination in Dentistry of New Jersey will hold their annual meeting and examination in the Assembly Chamber, at the State House, Trenton, N. J., on June 28-30, 1915. License fee, \$25.00. No interchange of license.—JOHN C. FORSYTH, Trenton, N. J., *Acting Secretary*.

## NEW YORK.

The next meeting of the New York State Dental Society will be held at Hotel Ten Eyck, Albany, N. Y., May 13-15, 1915.—A. P. BURKHARD, 52 Genesee St., Auburn—N. Y., *Secretary*.

## PENNSYLVANIA.

The next examination of the Pennsylvania State Board of Dental Examiners will be held in Philadelphia and Pittsburgh, June 9-12, 1915. Application papers may be secured from the Department of Public Instruction, Harrisburg.—ALEXANDER H. REYNOLDS, 4630 Chester Ave., Philadelphia, Pa., *Secretary*.

The fifty-second annual meeting of the Lake Erie Dental Association, will take place at Hotel Bartlett, Cambridge Springs, Pa., May 20-22, 1915.—J. F. SMITH, Erie, Pa., *Secretary*.

The Susquehanna Dental Association of Pennsylvania will hold its 52nd annual meeting in Irem Temple, Wilkesbarre, Pa., May 18-20, 1915.—GEO. C. KNOX, *Secretary*.

## RHODE ISLAND.

A regular meeting of the Rhode Island State Board of Dentistry will be held in the State House, Providence, R. I. June 23-25, 1915.—WILLIAM B. ROGERS, 171 Westminster St., Providence, R. I., *Secretary*.

## SOUTH CAROLINA.

The next annual meeting of the South Carolina State Board of Dental Examiners will be held at Columbia, June 15, 1915.—R. L. SPENCER, Bennettsville, S. C., *Secretary*.

The annual meeting of the South Carolina State Dental Association will be held at the Jefferson Hotel, Columbia, S. C., April 27-30, 1915.—E. C. DYE, Greenville, S. C., *Secretary*; P. D. BROOKER, 501 Palmetto Bldg., Columbia, S. C., *President*.

## SOUTHERN MINNESOTA.

The Southern Minnesota District Dental Society will hold its annual meeting April 12th-14th, at Mankato, Minnesota.—GEORGE W. NORRIS, Mankato, Minn., *Secretary*.

## TEXAS.

The thirty-fifth annual meeting of the Texas State Dental Association will be held in Galveston, Texas, May 19-22, 1915. The special feature of this meeting will be post-graduate lectures and clinic work.—W. O. TALBOT, Fort Worth Texas, *Treasurer*.

## VERMONT.

The next meeting of the Vermont Board of Dental Examiners, for the examination of candidates to practise in Vermont, will be held at the State House, Montpelier, commencing at 2 P. M. on June 28, 1915, and continuing for three days.—GEO. F. CHENEY, St. Johnsbury, Vt., *Secretary*.

## WEST VIRGINIA.

The annual meeting of the West Virginia State Dental Society will be held in Wheeling, W. Va., April 14-16, 1915.—J. W. PARSONS, Huntington, W. Va., *Secretary*.

The next meeting of the West Virginia State Board of Dental Examiners will be held in the city of Charleston, W. Va. Examinations will commence at nine o'clock A. M., June 9, 1915.—H. H. SMALLRIDGE, Charleston, W. Va., *Secretary*.

# STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., OF THE DENTAL DIGEST, PUBLISHED MONTHLY AT NEW YORK, N. Y., REQUIRED BY THE ACT OF AUGUST 24, 1912

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[SEAL] MARY VAN HORN,  
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Register's No. 5054

My commission expires March 30, 1916.

## FUTURE EVENTS

- May 4-6, 1915.—Iowa State Dental Society, Waterloo, Ia.—C. M. KENNEDY, Des Moines, Ia., *Secretary*.
- May 5-7, 1915.—Massachusetts Dental Society, Boston, Mass.—A. H. ST. C. CHASE, Everett, Mass., *Secretary*.
- May 10-12, 1915.—Ontario Dental Society, Royal College of Dental Surgeons, Toronto, Canada.—A. W. ELLIS, *Chairman Exhibit Committee*.
- May 11-14, 1915.—Illinois State Dental Society, Peoria, Ill.—HENRY L. WHIPPLE, Quincy Ill., *Secretary*.
- May 13-15, 1915.—Arkansas State Dental Association, Little Rock, Ark.—W. B. DORMON, Nashville, Ark., *Secretary*.
- May 13-15, 1915.—New York State Dental Society, Albany, N. Y.—A. P. BURKHART, 52 Genessee St., Auburn, N. Y., *Secretary*.
- May 18-20, 1915.—Indiana State Dental Association, Claypoole Hotel, Indianapolis.—A. R. ROOSS, Lafayette, Ind., *Secretary*.
- May 18-20, 1915.—Nebraska State Dental Society, Omaha.—H. J. PORTER, Cambridge, Neb., *Secretary*.
- May 18-20, 1915.—Susquehanna Dental Association of Pennsylvania, Irem Temple, Wilkesbarre, Pa.—GEO. C. KNOX, *Recording Secretary*.
- May 19-21, 1915.—Vermont State Dental Society.—P. M. WILLIAMS, Rutland, Vt., *Secretary*.
- May 19-22, 1915.—Texas Dental Association, Galveston, Texas.—C. M. McCAULEY, *President*; W. O. TALBOT, Fort Worth, *Secretary*.
- May 20-22, 1915.—Fifty-second meeting of Lake Erie Dental Association, Hotel Bartlett, Cambridge Springs, Pa.—F. A. SMITH, Erie, Pa., *Secretary*.
- May 21-22, 1915.—The Upper Peninsula Dental Society, at Menominee, Mich.—H. S. BUELL, Menominee, Mich., *Secretary*.
- May 25-27, 1915.—Kansas City Dental Association, Topeka, Kansas.—C. B. REED, *Chairman Exhibit Committee*; A. L. BENTON, *Secretary*.
- June 3-5, 1915.—Annual convention, Northern Ohio Dental Association, Cleveland, O.—WESTON A. PRICE, *President*; C. D. PECK, Graham Building, *Secretary*.
- June 3-5, 1915.—Louisiana State Dental Association, New Orleans.—P. TROWBRIDGE, Franklin, La., *Secretary*.
- June 7, 1915.—Iowa State Board of Dental Examiners, Iowa City, Iowa.—J. A. WEST, 417 Utica Bldg., Des Moines, Iowa, *Secretary*.
- June 7-10, 1915.—Examination of applicants for license to practice, Georgetown University, Washington, D. C.—STARR PARSONS, 1309 L. Street, N. W. Washington, D. C., *Secretary*.
- June 8-10, 1915.—The 46th annual meeting of the Kentucky State Dental Association, School Building, Ashland, Ky.—CHAS. SHACKLETTE, 540 The Atherton Building, Louisville, Ky., *Secretary*.
- June 9, 1915.—Nebraska Board of Dental Examiners, Lincoln, Neb.—J. H. WALLACE, 212 Brown Block, Omaha, Neb., *Secretary*.
- June 9, 1915.—West Virginia State Board of Dental Examiners, Charleston, W. Va.—H. H. SMALLRIDGE, Charleston, W. Va., *Secretary*.
- June 9-12, 1915.—Pennsylvania State Board of Dental Examiners, Philadelphia and Pittsburgh. Application papers may be secured from the Department of Public Instruction, Harrisburg.—ALEXANDER H. REYNOLDS, 4630 Chester Ave., Philadelphia, Pa., *Secretary*.
- June 10-12, 1915.—Missouri State Dental Association, Golden Jubilee Meeting, Jefferson City.—S. C. A. RUBEY, New York Life Bldg., Kansas City, Mo., *Secretary*.
- June 11-12, 1915.—Maryland State Dental Association, Baltimore, Md.—F. F. DREW, 701 N. Howard St. Baltimore, Md., *Secretary*.
- June 11-12, 1915.—Thirty-second annual convention of the Minnesota State Dental Association, Minneapolis.—MAX E. ERNST, St. Paul, Minn., *Secretary*.

- June 14-19, 1915.—Michigan State Board of Dental Examiners, at Ann Arbor, Mich.—A. W. HAIDLE, Negaunee, Mich., *Secretary*.
- June 14-18, 1915.—Indiana State Board of Dental Examiners, State House, Indianapolis. For application blanks address FRED J. PROW, Bloomington, Indiana, *Secretary*.
- June 15, 1915.—South Carolina State Board of Dental Examiners, Columbia, S. C.—R. L. SPENCER, Bennettsville, S. C., *Secretary*.
- June 17-19, 1915.—Forty-sixth annual meeting of the Georgia State Dental Association, Atlanta, Ga., at Piedmont Hotel.—M. M. FORBES, 803 Chandler Bldg., Atlanta, *Sec'y*.
- June 17-19, 1915.—The Annual Meeting of the Colorado State Dental Association, Manitou, Colo.—EARL W. SPENCER, 120 Pope Block, Pueblo, Colo. *Secretary*.
- June 21, 1915.—North Carolina State Board of Dental Examiners, Wrightsville Beach, Wilmington, N. C.—F. L. HUNT, Asheville, N. C., *Secretary*.
- June 21, 1915.—The Wisconsin State Board of Dental Examiners, Milwaukee, at Marquette University, for examination of applicants to practise in Wisconsin.—W. T. HARDY, Milwaukee, Wis., *Secretary*.
- June 21-23, 1915.—The Arkansas State Board of Dental Examiners will hold examinations at Marion Hotel, Little Rock, Arkansas.—IRVIN M. STERNBERG, Fort Smith Ark. *Sec.*
- June 22-24, 1915.—Pennsylvania State Dental Society, at Rajah Temple, Reading, Pa.—L. M. WEAVER, Philadelphia, Pa., *Secretary*.
- June 22-24, 1915.—New Hampshire Dental Society, New Hotel Weirs, Weirs, N. H.—C. S. COPELAND, *President*; L. I. MOULTON, *Secretary*.
- June 23-25, 1915.—North Carolina Dental Society, Wrightsville Beach, N. C.—R. M. SQUIRES, Wake Forest, N. C., *Secretary*.
- June 23-25, 1915.—Regular meeting of the Rhode Island State Board of Dental Examiners the State House, Providence, R. I.,—WILLIAM B. ROGERS, 171 Westminster St., Providence, R. I., *Secretary*.
- June 24-26, 1915.—Tennessee State Dental Association, Forty-eighth annual meeting, Sewanee, Tenn.—C. O. RHEA, Nashville, Tenn., *Secretary*.
- June 28, 1915.—Vermont Board of Dental Examiners, for the examination of candidates to practise in Vermont, State House, Montpelier.—GEORGE F. CHENEY, St. Johnsbury, Vt., *Secretary*.
- June 28-30, 1915.—Maine Dental Society, Lafayette Hotel, Portland, Maine.—I. E. PENBLETON, Lewiston, Me., *Secretary*.
- July 1-3, 1915.—Maine Board of Dental Examiners, State House, Augusta, Me.—I. E. PENBLETON, *Secretary*.
- July 13, 1915.—The South Dakota State Board of Dental Examiners will hold its next meeting at Sioux Falls, S. D.—ARIS L. REVELL, Lead, S. D., *Secretary*.
- July 13-15, 1915.—Wisconsin State Dental Society, Oconomowoc, Wis.—O. G. KRAUSE, *Secretary*.
- July 21-24, 1915.—Forty-fifth annual convention of the New Jersey State Dental Society, Asbury Park; headquarters, Coleman House.—JOHN C. FORSYTH, *Secretary*.
- August 30, 1915.—Federation Dentaire Internationale, San Francisco, Cal.—BURTON LEE THORPE, *Assistant Secretary*.
- August 30-Sept. 1-9, 1915.—Panama-Pacific Dental Congress, San Francisco, Cal.—ARTHUR M. FLOOD, 240 Stockton St., San Francisco, Cal., *Secretary*.
- November 4-6, 1915.—Virginia State Dental Association, Richmond.—C. B. GIFFORD, *Sec'y*.
- December 7-9, 1915.—Ohio State Dental Society, Columbus, O.—F. R. CHAPMAN, *Secretary*.
- January 25-27, 1916.—American Institute of Dental Teachers, Minneapolis, Minn.—J. F. BIDDLE, *Secretary-Treasurer*.
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